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AN EVALUATION OF PSYCHOLINGUISTIC ANALYSIS FOR FINANCIAL COMMUNICATIONS IN THE CONTEXT OF INSTITUTIONAL THEORY

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Whilst registered as a candidate for the above degree, I have not been registered for any other research award. The results and conclusions embodied in this thesis are the work of the named candidate and have not been submitted for any other academic award.

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ABSTRACT

There is a growing current trend in the management manipulation of published financial results evidenced by the increasing emergence of high-profile cases of deceptive financial reporting which continuously undermines the financial reporting function.

While previous studies evaluate financial communications in general without appreciating the granular differences between different industries or institutions, this study advances the need to study the ways companies communicate in different industries to enable commensurate comparisons. To do this, this study draws and evaluates insights from research in the areas of institutional theory, institutional logic, isomorphism, impression management, earnings management, deception, financial statement fraud, and linguistic analysis. Overall, this study focuses on advancing the research on psycholinguistics in financial communications at the institutional level, to work in tandem with financial models. This has the potential for evaluating linguistic changes in those communications at an early stage, to illuminate red flags before a crime takes place, and enable the investment community through auditors to manage and prevent corporate fraud.

To create differentiation in the financial communications of industry groups, this study empirically tested the industry characteristics established in prior studies for differentiating between high and low discretion industries. Specifically, this study conducted a comparative analysis on the measurement of managerial discretion intra-industry in the United Kingdom, with the view of obtaining the predictive validity of the underlying model originally tested in the United States of America. This study applied the resulting evidence in testing the differential financial narratives of high and low discretion industries, in the UK, both in the context of published annual reports and through the narratives of analysts meetings. The results of this study showed that the financial communications of companies can better be evaluated and understood in the context of the institutional environment to which each belongs and in the economic contexts they are faced with.

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ABBREVIATIONS

1. AAER - Accounting and Auditing Enforcement Release
2. ACFE - Association of Certified Fraud Examiners
3. AD - Analysts' Discussions
4. Agg.AD - Aggregated Analysts' Discussions
5. Agg.AR - Aggregated Annual Report
6. AI - Artificial Intelligence
7. ANLP - Applied Natural Language Processing
8. AR - Annual Reports
9. CATA - Computer-Aided Text Analysis
10. CBCA - Criteria-Based Content Analysis
11. CEO - Chief Executive Officer
12. DICTION - DICTION 7 or DICTION 7.0
13. FSF - Financial Statement Fraud
14. FTSE - Financial Times Stock Exchange
15. GAAP - Generally Accepted Accounting Principles
16. GI - General Inquirer
17. HD - High Discretion
18. IBM - International Business Machines
19. IDT - Interpersonal Deception Theory
20. LD - Low Discretion
21. LIWC - Linguistic Inquiry and Word Count
22. LSE - London Stock Exchange
23. MD&A - Management Discussion and Analysis
24. MOH - Management Obfuscation Hypothesis
25. NCAA - National Collegiate Athletic Association
26. NLP - Natural Language Processing
27. NO - Number
28. NY - New York
29. PDF - Portable Document Format

ABBREVIATIONS

30. PPE - Property, Plant, and Equipment
31. R&D - Research and Development
32. RTF - Rich Text Format
33. SCAN - Scientific Content Analysis
34. SD - Standard Deviation
35. SGR - Sales Growth Rate
36. SIC - Standard Industrial Classification
37. SPSS - Statistical Package for Social Sciences
38. SVA - Statement Validity Assessment
39. TMT - Top Management Team
40. TV - Television
41. UK - United Kingdom
42. USA - United States of America
43. USMA - United States Military Academy

CHAPTER ONE

INTRODUCTION CHAPTER

1.1 Overview

There is a growing trend in the management manipulation of published financial results evidenced by the increasing emergence of high-profile cases of deceptive financial reporting which continuously undermines the financial reporting function. Furthermore, in recent cases of the liquidation of some historically profitable companies in the London market such as Carillion, Patisserie Valerie, and Thomas Cook, a common theme among them has been the absence of timely warnings or reports that informed their imminent collapse[1]. Historically, the main focus of studies conducted in the accounting and auditing domain has been on evaluating and auditing the financials of corporate firms where models for assessing earnings management have been developed. The great core of all previous studies are premised on differentiating fraud from non-fraud companies, based on the financials of companies that were found to have been fraudulent. As a result, this approach potentially misses a whole sector of companies who were not found out, even if they have been deceptive or even fraudulent without being detected.

In such a context, this study assumes that all companies may be suspect and should be equally validated for differential features, without which companies which may have lied and deceived their investors would be categorised as non-fraudulent and will thereby present precedential features as being truthful. Consequently, they are likely not to be discovered using the models currently developed and will consequently impact negatively on the economy. Contemporarily, one of the developing research areas in the field of Accounting is the evaluation of the financial communications of corporate organisations. Previous studies on the evaluation of corporate narratives have focused on several topics of interest such as the association between tone at the top and financial reporting aggressiveness (Patelli & Pedrini, 2015), mining annual reports for hidden cues of deception (Craig, Mortensen, & Iyer, 2013; Goel & Gangolly, 2012), top management's tone change in corporate narratives (Feldman, Govindaraj, Livnat & Segal 2010), impression management and corporate narratives (Merkl-Davies, Brennan, & McLeay, 2011), leader's impression management during organisational decline (Chng, Rodgers, Shih, & Song, 2015), amongst others.

[1] For example, Carillion PLC made an end of year trading statement in early December 2016, stating that performance was meeting expectations, they expected strong growth in revenue and operating profit and also expected net borrowing to reduce. In May 2017 the CEO announced at the AGM, that they had made an encouraging start to the year. The Company then issued a trading update to the market in July 2017, in which the previous announcements, noted above, were effectively reversed. The share price collapsed by 90% on that day. The company went into liquidation six months later in January 2018, becoming the largest ever trading liquidation in the UK (Carillion's upbeat update under microscope, 2018).

Historically, the predominant approach in these prior studies has been on independently evaluating the financial communications of individual corporate organisations, without much emphasis on the need to assess each organisation's corporate narratives within the context of the industry, or institutional environment that regulates their operating logic. Given this apparent paucity within the burgeoning research field of financial communication and on the critical understanding of this connecting area, the approach of this study is to incorporate the insights from the theory of institutions and organisations in the differential evaluation of the financial communications of the top management of corporate organisations in different industries and contrasting economic contexts.

In addition, while previous studies evaluate financial communications in general without appreciating the granular differences between different industries or institutions, this study advances the need to study the ways companies communicate in different industries to enable commensurate comparisons. Overall, this study focuses on advancing the research on psycholinguistics in financial communications at the institutional level, to work in tandem with financial models. This has the potential for evaluating linguistic changes in those communications at an early stage, to create red flags before a crime takes place, and enabling the investment community through auditors to manage and prevent corporate fraud.

Institutions have been defined as "a system of norms that regulate the relations of individuals to each other" (Parsons, 1990, p.327), which also defines expectations as to the modality of such relations (Scott, 2014). According to Greenwood, Oliver, Sahlin and Suddaby (2013), organisations can either be regulated by the logic internal to each organisation or by that imposed by the external environment. Specifically, from the perspective of the external environment regulating the logic that guides the behaviours of organisations, Boxenbaum and Jonsson (2013) posit that organisations become similar or isomorphic in their behavioural pattern. Consequently, as organisations interact over time, they develop certain isomorphic traits which creates an institutional logic that regulates the behaviour of the organisations affiliated to such institutions.

As such, the logic that regulates an institution shapes the rational behaviours of individual organisations to the extent that they become loosely coupled from their technical core (Meyer & Rowan, 1977). According to Meyer and Rowan (1977), organisations ensure they conform to the logic imposed on them from their external environment owing to the need to maintain legitimacy of their operations. In view of this, Thornton and Ocasio (1999) defined institutional logics as "the socially constructed, historical patterns of material practices, assumptions, values, beliefs, and rules by which individuals produce and reproduce their material subsistence, organize time and space, and provide meaning to their social reality" (p. 804).

Therefore, the values and beliefs shared by organisations within an institutional environment results in an isomorphic situation where organisations have similar identities and operate in similar forms. Consequently, these shared values and beliefs manifest in the structuring of symbols such as language, signs, and gestures, which subsequently shape the meanings attributed to events and activities (Scott, 2014). In the same vein, based on the theoretical understanding that the logic that regulates organisations in one institutional environment will be entirely different from those of organisations in another institutional environment, the standpoint of this study is that such differences in logics will be manifest in their use of language while communicating their social and economic reality. For the purpose of differentiating between the logics of different institutions, this study adopts the insights from Hambrick and Finkelstein's (1987) discretion theory.

According to Hambrick and Finkelstein (1987), the amount of discretion afforded to organisations within an institutional environment influences organisational outcomes. Based on the measure of several objective industry characteristics, Hambrick and Abrahamson (1995) found that companies can either be categorised into a high discretion industry or a low discretion industry. For organisations in a high discretion industry, the locus of control is at the discretion of the top management. On the other hand, where the locus of control is at the discretion of the external environment or forces outside the domain of organisations, such organisations are classified as belonging to a low discretion industry. In view of this, Bligh and Kohles (2014) emphasise that it is possible to understand the dynamics of individual organisations belonging to institutional groups through their choice of language. Hence, the rationale of this study is to evaluate the choice of language in the financial communications of organisations informed by the level of discretion afforded to them by their institutional environment.

1.2 The Research Question

As noted, the theory on institutions and organisations posits that different logics regulate organisations in different institutional environments. This study, therefore, focuses on the psycholinguistic analysis of the financial communications of companies across various industries. To facilitate this, the financial communications of companies delivered by the Chief Executive Officers (the CEOs) are employed in evaluating their differential language features. The rationale for focusing on the financial communications of CEOs is based on the insight that the communication of the CEO of company is "a fundamental vehicle of leadership" (Patelli & Pedrini, 2015, p. 4), which serves to reflect the priorities of CEOs, their mindset, and perceived charisma (Amernic, Craig & Tourish, 2010). Similarly, Merkl-Davies and Brennan (2007) posit that the leadership and organisational values of corporate entities can be understood through the lexical features of CEO communications. In the same vein, Mahadeo (2006) conceives that the language

of the top management of an organisation creates an "atmosphere" that stipulates the behaviour of social actors within an organisation (p.1).

As emphasised by Amernic et al. (2010), the narrative language of the CEO of an organisation is a fundamental and direct manifestation of top management language. Interestingly, the narratives of CEOs have been found to carry valuable and predictive information concerning circumstances surrounding an organisation, which can signal potential financial and going-concern issues (Craig et al. 2013). Based on insights from the aforementioned prior studies, the primary research question of this study is to evaluate whether the psycholinguistic features of the financial communications of companies differ significantly between varying institutional contexts.

Consequently, the overarching question this study aims to answer is whether the linguistic features of the financial communications of the CEOs of companies are different across various industries and in contrasting economic contexts, with the primary critical aim of evaluating the financial communications of individual organisations in light of those of competitors within the same industry classification. To answer this research question, the following supplementary questions will be evaluated. First, by drawing and evaluating insights from research in the domain of discretion originally conducted in the United States of America (the USA), this study tests whether the underlying predictive model for differentiating between industries, in the context of the discretion afforded to them, can be replicated, tested, and validated for companies operating in the United Kingdom (the UK).

Therefore, the first question this study aims to answer is to test whether the model for measuring the overall discretion can be used to classify companies in the UK as either belonging to the high discretion industry or low discretion industry, in line with the results presented for companies in the USA. If so, the second question focuses on testing whether the extant theory on psycholinguistics and the techniques used in analysing language features provide thematic indicators for differentiating between the financial communications of companies in high discretion industry from those in the low discretion industry. Lastly, consequent on the second question, the third question focuses on evaluating the language features of companies in each of the industry groups during periods of favourable financial performance results and unfavourable financial performance results. Specifically, it evaluates how companies use language during good times in comparison to periods when they face imminent financial difficulty.

1.3 Development of Hypotheses, the Corpora, and the Tools

To answer these questions, this study hypothesises that a non-engaging, complex, resolute, and optimistic language is more likely to be associated with companies in a high discretion environment. On the other hand, it hypothesises that a language that is engaging and which aligns to the common

knowledge of the stakeholder community is more likely to be associated with companies in a low discretion environment. To test the hypotheses of this study, the empirical analysis measures the language features in CEO letters from a sample of FTSE350 companies trading on the London Stock Exchange over a five-year period. Specifically, the CEO letters to shareholders are divided into CEO letters to shareholders of companies in the high discretion industry and for those in the low discretion industry. In addition, this study measures the language features of CEO discussions with investment analysts. All the transcripts of CEO letters to shareholders are either collected from the Bloomberg Data or directly from the websites of each company. For the analysts' discussions, the transcripts of CEO contributions are collected from Bloomberg Data alone.

Several reasons motivate the choice of CEO letters and their discussions with analysts. According to Patelli and Pedrini (2015), CEO letters serve as a fundamental vehicle of corporate leadership. In the same vein, Amernic et al., (2010) posits that CEO letters provide a reflection of the priorities, mindset, and perceived charisma of a CEO. Similarly, Patelli and Pedrini (2015) emphasise that through the letters written to shareholders by CEOs, it is possible to assess their business vision, understand a firm's competitive advantage, evaluate the strategic priorities of top management, interpret financial results and other achievements, and most importantly, be able to identify threats and opportunities (p. 4). To further justify the selection of CEO letters, Courtis (1998) affirms that of the other sections of corporate annual reports, the CEO letters are the most read section.

While the reliability of the content of CEO letters has been questioned due to the possibility of being used for rhetorical manipulation (e.g. Abrahamson & Hambrick, 1997; Abrahamson & Park, 1994; Fiol, 1995), they serve the purpose of this study in evaluating them for impression management purposes. On the other hand, the rationale for selecting transcripts of CEO discussions with analysts is due to the possibility of ascertaining their authorship and the potential for understanding the true reflection of the cognitions of CEOs (Abrahamson & Park, 1994; Fiol, 1995). These communication narratives form the corpora of this study, while they also enable the assessment of the language features of different text genres used in financial communications.

To measure the thematic indicators of these CEO letters and their discussions with analysts, this study adopts the computer-aided text analysis provided by DICTION 7 (hereafter, DICTION) to measure for the five Master Variables of COMMONALITY, CERTAINTY, ACTIVITY, REALISM, and OPTIMISM. For the purpose of obtaining validity for the use of DICTION, the language features of another text analysis tool – Linguistic Inquiry and Word Count (LIWC), are compared alongside those of DICTION. Lastly, to measure the readability of the financial communications of the two industry groups, this study adopts the

readability measures known as Flesch Reading Ease (hereafter, Reading Ease or Readability Score) and Flesch-Kincaid Readability Grades (hereafter, Readability Grades).

1.4 The Research Objectives (Purpose of Study)

With the extant theory on organisations and institutions, this study aims to advance the research on the evaluation of financial communications of companies using an interdisciplinary approach. Therefore, the critical goal of this study is to evaluate the language differences used in the financial communications of companies in different industry and economic contexts, and based on the findings, to offer a conceptual framework as to the implications these language features might signal for the stakeholder community in understanding these financial communications in different industry and economic contexts, within which companies operate. To do this, this study draws and evaluates insights from research in the areas of institutional theory, institutional logic, isomorphism, impression management, earnings management, deception, financial statement fraud, and linguistic analysis. Based on the findings of this study, it aims to derive thematic tests to inform the development of theory on the evaluation of corporate narratives, future professional practice in the areas of audit and corporate governance, and assist regulatory authorities in their oversight roles as it relates to the financial reporting function.

1.5 Relevance of Study

This study is of interest to the research community in the domain of the language analysis of corporate narratives because it stands to better explain the need to evaluate the financial communications of companies in the context of their institutional environment and prevailing economic circumstances. In view of this, it stands to explain how the potential differences in financial communications are made manifest through the linguistic features of those corporate narratives. This is also important to shareholders and potential investors because their goal is to effectively make sound economic decisions on their investments based on the financial communications they receive from the top management of their companies. Furthermore, the task of this study is also important to assurance providers such as auditors and entity risk assessors, because their task is to effectively investigate and provide assurance on the true and fair view of the information provided by top management on the performance of their companies, which has impact on the integrity of the financial reporting function.

In addition, it is also of interest to regulatory authorities because their task is to ensure companies provide as much information as possible to the markets, which should be true and fair, comprehensive and comprehensible to the stakeholder community. Lastly, in this era of Artificial Intelligence (AI) and Machine Learning, the results of this study present the possibility for automated computer text mining systems to develop algorithms to predict potential earnings manipulation and imminent financial disasters. Overall,

this study stands to advance the need to incorporate computer-aided text analysis in the evaluation of the financial communications of companies. In sum, a computational approach for evaluating the financial communications of companies in different industry and economic contexts offers researchers, the investment community, assurance providers, and regulatory authorities a number of exciting avenues of interest.

1.6 Situating the Study

This study differs from the approach of prior studies on the evaluation of corporate narratives because it discusses the psycholinguistic features of the financial communications of companies in the context of their industry classification and in light of the institutional environments that shape their actions. The approach of this study is to better understand the influence of industry factors such as the level of discretion afforded to them on organisational outcomes, expressed through the financial communications of companies in different industry and economic contexts. Taken as a whole, this study fills the gap in research on the need to consider the financial communications of companies in the context of their institutions. To do this, this study builds on existing research by replicating and validating the underlying model for measuring the level of discretion in the context of UK industries. It follows with the evaluation of the psycholinguistic features of the financial communications of companies in different industry groups during good and bad times, as well as measuring the readability of the different text genres that convey the message in those financial communications.

Accordingly, the lexical analysis in this study is based on the CEO letters to shareholders and their discussions with analysts. The rationale for choosing CEO letters is based on the standpoint that it is a fundamental and direct manifestation of top management language (Amernic et al., 2010), as well as conveying direct expressions of tone at the top (Li, 2008). While CEO letters are often thought to reflect multiple authorship with the potential to be managed and thoroughly edited by public relations specialists (Abrahamson & Hambrick, 1997; Bowman, 1984), non-evaluative statements such as CEO discussions with analysts are more likely to reflect managerial cognitions, while evaluative statements such as CEO letters to shareholders are more likely to reflect impression management (Fiol, 1995). This study adopts the two financial communications channels as two different text genres for the purpose of evaluating their lexical features, with the view of assessing their likelihood for rhetorical manipulation.

1.7 Structure of the Study

The succeeding chapters in this study are organised as follows. In Chapter Two, this study presents the theoretical framework and reviews the extant literature in the areas of Institutional Theory, Institutional Logic, Institutional Leadership, Isomorphism and Legitimacy, Impression Management, Earnings

Manipulation, and Deception in the Context of Financial Statements. Next, in Chapter Three, this study presents the methodological framework used in formulating the eight major hypotheses and sub-hypotheses (discussed in Chapter Four) informed by the thematic indicators of the five Master Variables of DICTION, the measure of Tone in financial communications, measures of Readability in corporate narratives, and testing for the language features of different text genres used in financial communications. Chapter Four focuses on the development of the hypotheses formulated for testing using the tools discussed in Chapter Three. Subsequently, Chapter Five presents the empirical framework, discusses the empirical analysis conducted, and the critical findings of the study. Lastly, in Chapter Six, this study draws conclusions, offers implications for theory, practice, and the regulatory environment, as well as directions for future research.

CHAPTER TWO

LITERATURE REVIEW

This chapter focuses on the theoretical framework adopted for the purpose of this study. As aforementioned in the introduction chapter, one notable gap in previous studies on the evaluation of the financial communications of companies is the absence of studies on the evaluation of those communications in the context of their institutional environments. Accordingly, this chapter begins by reviewing the extant literature on organisations and their institutions with the view to understanding how individual organisations derive their behaviours from their enabling institutions, which are enforced through organisational leaders. It is followed with the review of how the behaviour of organisational leaders differ across industry groupings and how they use the discretion afforded to them in influencing organisational outcomes. These outcomes are communicated through some vehicles of corporate communications, with the potential for being used for impression management, earnings management, and fraudulent financial reporting purposes. This chapter concludes with the review of existing computerised text analysis techniques established for the purpose of evaluating the financial communications of companies for signals that help in unravelling the aforementioned purposes.

2.1 Introduction to Organisations, Institutions and Institutional Theory

Institutions have been defined as "a system of norms that regulate the relations of individuals to each other" (Parsons, 1990, p.327), which also defines expectations as to the modality of such relations (Scott 2014). On the one hand, an institution is seen as a body of organisations regulated by the same logic in the course of conducting their operational activities. This perspective posits that there is an external force that influences, directs and, sometimes, enforces deterrent measures on the activities of individual organisation within a particular logic, for the purpose of preserving the founding principles of such institution. This aspect of the phenomenon is seen as the external environment culminating into an institution (Scott, 2014). On the other hand, an organisation in itself can also be seen as an institution that generates sets of norms, principles, templates of actions, and logic that prescribes the direction its internal participants should follow in the course of performing their duties, and in representing the organisation. This aspect of the phenomenon is seen as the organisation being an institution in itself (Scott, 2014). Accordingly, a set of theory that explains the interactions among the participants within an organisation, and also, the interaction between an organisation and its environment is termed institutional theory.

Institutional theory, is a vibrant and regularly researched area in the social sciences. A phenomenon which originated from the analysis of organisations, its intersection and intercourse with organisational

studies from its beginning in the 1970s, have cut across the spheres of diverse organisational fields with significant transformations in the areas of management theory, institutional economics, social movement theory and organisational sociology, with strong impacts on neighbouring areas of political studies of institutions and administrative studies of accounting and international business (Scott, 2014). In particular, the studies on institutional theory have focused on the fields of economics, political science and sociology. Accordingly, "The work done in the past have been sources of intellectual capital for the more recent research" (Amarante, 2016, p.2). The late 1970s was a period when significant contributions were being made on building coherent conceptual frameworks on institutional and organisational theory supported by diligently conducted empirical research (Greenwood et al., 2013), which portrays the responses of institutional theory to empirical anomalies, as March and Olsen (1984) state "what we observe in the world is inconsistent with the ways in which contemporary theories ask us to talk" (p.747).

Within this time frame, some enduring perspectives within organisational theory of contingency theory, resource dependence theory, population ecology theory, transaction costs theory and institutional theory were initiated. Whilst institutions and institutional processes had been examined before the 1970s, as emphasised by Hirsch (2013), the introduction to the term 'institution' originated from Parsons' (1956) classic essay on the three analytic levels in the study of organisations. Post-Parsons' classic essay, the term 'institution' was not joined with the term 'theory', rather, it implied a recognised ground where political actions and change were possible. As stated by Stinchcombe (1997, p.2): "Institutions were created by purposive people in legislatures and international unions, and in pamphlets of business ideologists". That being said, in the framework of Parsons' (1956) approach, the coordination and control of a firm's work is done at managerial or administrative level, nevertheless, the actual work is executed at the firm's technical level. The body that serves to protect the activities of a firm against any external influence are those at the managerial level. Hence, top managers within firms strive to influence the enactment of laws in a way that protects the logic on which their firms operate. Nevertheless, laws and regulations are involuntarily formed outside the domain of firms - at the institutional level - with the enforcement of such regulations discharged in the markets and external environments in which these firms operate.

Accordingly, from Parsons' (1956) institutional perspective, there is a two-way mutual correlation between a firm and its external environment. The institution was seen as a political world dominated by lobbyists, trade unions and other interest groups who met with regulatory authorities to negotiate over rules that would structure their firms' behaviour. The motive for such mutualism was to mobilise power for the attainment of the goals of an organisation, albeit, "subject to the overall control of an institutionalized value system in the society and its subsystems" (Parsons, 1956, p.225). On the other hand, the external environment, notably the regulatory authorities, ensure that organisations conform with set standards in

such a way that the individuals and organisations conform with regulations while the vested interest of providing the resources to maintain the machinery of governance is secured.

In view of this, Hirsch (1975) noted that the possibility of understanding the reaction of a firm to its external environment was completely new. Prior understandings in organisation studies have focused primarily on the operations within organisations on individual and group actions. Subsequently, researchers began to create new levels of analysis, to contend that organisations are intrinsic systems that can be analysed as such, and that they can be fundamental actors in larger systems (Amarante, 2016). This insight facilitated the understanding of the proactive, active and reactive nature of organisations in their wider environment. In addition, it provided the opportunity to examine and understand how the firm could strive to influence a change to a regulation from being an adverse constraint to a more adaptable contingency and, subsequently, a variable subject to manipulation (Thompson, 1967). Consequently, organisations individually strove to beat the prevalent regulations, ensure their continuous presence in the market, and having a recognised actor between the organisations and the society (Hirsch, 2013).

The various theories on organisations, institutions and institutionalisation have various constructs and contexts (Greenwood et al. 2013; Hall & Taylor, 1996), with notable variants on the analysis of institutions identified through three basic schools of thought: rational choice institutionalism; historical institutionalism and organisational or sociological institutionalism (Hall & Taylor, 1996). This spans across decades and covers a wide range of disciplines, representing an approach distinct to the study of social, economic and political phenomena. The study of institutions, which has a long history, gains its roots from the analysis of the formation and structuring of organisations, which, unsurprisingly has raised concerns on the proliferation of theoretical paradigms which have flooded the conceptualisation of organisation theories (Greenwood et al. 2013). Nonetheless, the overarching questions of organisation theory focus on understanding organisations, with an emphasis on how and why organisations behave as they do and the consequences of such behaviours. Therefore, organisational institutionalism is the application of the institutional perspective to the analysis of those questions (Greenwood et al. 2013).

In an early study on organisation studies, Veblen (1919) attempted the definition of institutions as the "settled habits of thoughts common to the generality of man" (p.239). In another attempt, Kingsley Davis defined institutions as "a set of interwoven folkways, mores and laws built around one or more functions" (1949, p.71). Subsequently, studies on organisations and institutions have revolved around the areas of Sociology, Economics and Politics (DiMaggio & Powell, 1991). Furthermore, while much of early institutionalisms focused in the traditional perspective of institutions as centralised and informal structures, there is a renaissance on the perception of institutions beyond the classical institutional theory

to neo-institutional organisation theory which portrays institutions as peripheral with symbolic role of formal structure.

> Emphasised by Dobbin (1994, p.123), "Neo-institutional approaches to organizations are part of a much wider intellectual endeavor that problematizes modernity, and questions the social origins of the whole constellation of institutions and at the same time seeks to grasp not the universal laws that generate social practices, but social practices that generate universal laws and, in organization theory, attendant management prescriptions."

Generally, there are two different conceptions of organisations in the fields of Economics and Sociology. In Economics, organisations were seen as typical, but not distinctive, independent units. On the other hand, in Sociology, organisations were conceived as tools for implementing agendas set externally. These new approaches helped to recognise the much more loosely coupled networks and alliances which have become prevalent in the study of institutions. Historically, most of the work had placed emphasis on the relational and material aspects in environments which made organisations compete for limited resources for their going concern based on the materials available for work, the power-dependence relations and competition for limited resources (Scott, 2014). However, contemporary research leans towards the symbolic aspects of the environment influencing organisation behaviour as opposed to the material aspects.

In the context of this study, the approach is to draw insights from the field of organisational sociology, particularly in the analysis of the processes through which institutions influence and shape organisational structure, behaviour, and action (DiMaggio & Powell, 1991). Accordingly, this study reviews the various insights on old and new views of institutional theory with the aim of arriving at a central view of how an organisation can either be seen as an institution in itself making its own rules and values, or as a respondent to the logic or rules in a defining external environment. From the former view, it would mean that an organisation is likely to act in dissimilar ways from other organisations if it derives the logic of control within itself. In contrast, for organisations that are regulated by similar logic derived from an external environment, they are likely to act in similar ways and maintain similar identity over time (Thornton & Ocasio, 2013). Consequently, this study reviews how organisations become similar and act in predictable ways by considering the logic that regulates organisations within a specific institutional field. By creating a link between the powerful influence of institutional logic and how such influence creates similarity, or in other cases the dissimilarity of actions among organisations in different institutional fields, this study critically reviews the link between the level of discretion afforded to

organisations in response to the logic regulating the institutions within which corporate organisations derive meanings, values, and actions.

In sum, this study reviews the literature on organisations and institutions, how the logic prevalent in institutions make organisations to be similar, isomorphic, or even dissimilar in nature, the classification of organisations in accordance to the level of discretion afforded to them which is used as a determinant of the responses of organisations to the defining logic in their external environment. In view of this, this study considers how the logic regulating organisations within an institutional field becomes institutionalised or diffused in the internal affairs of organisations through the leadership of the top management of corporate organisations, which is made manifest in their choice of language in communicating their responses to the circumstances surrounding them. It follows with the evaluation of the extant literature on the financial communications of organisations and how the leadership of corporate organisations in different institutional fields or industries use the discretion afforded to them in communicating to their stakeholders. This will entail evaluating the literature on the use of corporate communications for purposes such as impression management, earnings manipulation, which may subsequently lead to financial statement fraud.

Accordingly, the structure of this literature review chapter is as follows: the next section focuses on the background review of organisations and institutions, followed by the literature on institutional logic and isomorphism. Next is the link between institutional logic and managerial discretion theory, and how they differ across industry or institutional groups. It follows with the review of the literature on institutional leaderships in different institutional fields and their place in diffusing into organisations the logic set in their defining external environment. Subsequently, this study reviews the literature on organisational leaderships' use of impression management and earnings management tactics conveyed through the vehicle of corporate communications, which may be useful for assessing signals of financial distress and in cases of fraudulent financial reporting.

2.2 Organisational and Institutional Theory – A Background Review

The study of institutions is one with a long history in the analysis of organisations with notable foundation in Philip Selznick's empirical analyses of organisations and the institutional environment (Selznick, 1948, 1949, 1957), which placed emphasis on the functioning of an institution with respect to the integration of organisations with other various organisations in a social setting through universalistic rules, contracts and authority (Thornton & Ocasio, 2013). Building from this early insight on institutions and institutionalism, a new approach to the analysis of institutions emerged in the 1970s through the work of Meyer and Rowan (1977) and Zucker (1977), who emphasised the role of culture and cognition in

institutional analysis. In their study, by adopting a macro-perspective of institutional analysis, Meyer and Rowan (1977) emphasised the role of modernisation in rationalising take-for-granted rules, resulting in Isomorphism in organisations' formal structure – a situation where organisations have similar identity and operate in similar forms.

Consequently, in the quest for legitimacy in operations, organisations had to align themselves with the requirements of the external environment which by implication coerced parts of organisations to be loosely coupled from the primary objective for which they were established. In view of this, DiMaggio and Powell (1983) extended the early insight on institutionalism by focusing on isomorphism from the macro level of the society to the level of organisational fields with specific emphasis on the coercive, normative and mimetic sources of isomorphism. In their study, they viewed cognition from the perspective of mimetic isomorphism, the behaviour of individuals in response to cultural rationalisation. This became adopted by neo-institutionalists in rejecting rationality as the justifiable explanation for the structure of organisations, with a new emphasis on legitimacy rather than efficiency as the reason for the success and going-concern of organisations (Tolbert & Zucker, 1983).

The various empirical studies conducted by Scott, Reuf, Mendel, and Caronna (2000); Thornton and Ocasio (1999); and Haveman and Rao (1997) created a contemporary approach towards the analysis of institutions by introducing institutional logics as defining the content and meaning of institutions. Although the views of these empirical studies on institutional logics shared common ground with DiMaggio and Powell (1983, 1991); Meyer and Rowan (1977); and Zucker (1977), on the concerns of how cultural norms and cognitive structures mould organisational structures, nevertheless, they differ from them in significant ways. Isomorphism no longer becomes the central focus be it in the global system, society, or organisational fields, rather, attention is now focused on the effects of differentiated institutional logics on individuals and organisations in broader contextual structures in markets, industries and industry sectors. Similarly, in the context of this study, the focus is on the effect of differentiated institutional logics on organisational outcomes in the context of the industries they operate in and the impact of the discretion afforded to them on organisational outcomes. However, prior to exploring the various segments of institutional theory that inform the approach of this study, it is informative to critically review the literature on these Isomorphic and Institutional Logic phenomena from its foundational years during the early 20th century.

> In the words of Rivers (1914), "human beings do not pursue the course of their daily lives and perform the complicated actions of social life merely as automata conforming to the institutions

and customs into which they have been born. There remains a vast field of study in the ideas, beliefs, emotions, and sentiments which act as the immediate motives of these actions" (p.595).

Consequently, people are motivated to act in certain ways which could be to conform unwittingly to certain conventions or to imitate norms prevalent in societies, that is, they operate within a social framework shaped by a set of cultural and historical forces. Veblen (1909) posited that, though, much behaviour was governed by habit and convention, institutional characters vary as the scenery of an institution varies in the course of the individual's conduct and habitual relations to their fellows in a group. In the same vein, organisations act in response to norms and standards that guide their operations regardless of whether or not they created those standards, and more importantly, whether or not those norms promote the objectives of the individual organisations. In a similar purview, Abrahamson and Hambrick (1997) posit that the degree to which organisations conform to the norms in their external environment depends on the level of discretion afforded to them.

With the view of conforming to institutional norms, morality and the need to obtain legitimacy of actions become the primary motivating factors for institutionalising action rather than instrumental concerns, with a primary motive for obedience to an institutional norm vested in the moral authority imposed on the individual (Parsons, 1990), the conformity of the individual, to those standards, not necessitated by expediency or self-interest, but by their belief in a value standard (Scott, 2014). However, Alexander (1983, p.242) noted, in line with Veblen (1909) that though institutions regulate the interaction among individuals and define what the nature of the relations ought to be (Parsons, 1990), too much emphasis is placed on cultural patterns by overemphasising the "control exerted by values over conditions" with less emphasis on the importance of interests, instrumental action and rational choice on individual actions in a societal context.

Accordingly, Spencer (1910) viewed society as an organic system which evolves over time. The adaptation of this system in varying contexts was achieved through the workings of specialised organs structured as institutional subsystems. From the assertion of Spencer (1876; 1896; 1910), the anatomy of a society is a combination of institutions acting in a codified manner to uphold the generic culture and conventions of the larger society. Consequently, Van de Ven (1993, p.142) in the analysis of institutional economics argued that institutions prevalent at specific times come into existence as imperfect and pragmatic solutions to reconcile past conflicts. They consist of a set of predetermined rights and duties, with a recognised authority charged with the enforcement of the rights and duties, and some degree of adherence to collectively acceptable norms of prudent reasonable behaviour, as "the concept of

institutions seems better than any other to convey the notion of segments or parts of the normative order" (Davis, 1949, p.71).

Similarly, Sumner (1906) viewed institutions as a combination of a concept and a structure. The concept expresses the purposes and functions of the institution while the structure is established to embody the idea of the institution and to be the umpire through which the idea is put into action in constituent organisations. Nevertheless, an institution is not to be regarded as independent and external to individual action or behaviour; a system of action is seen to be institutionalised to the degree that individual actors in a recurring interaction orient their actions to a uniform set of normative standards and value patterns, thereby creating a need-disposition in the individual actor's own personality structure (Parsons, 1951). Consequently, institutions are, in themselves, developed and preserved through continuous interactions among individuals because "the individual is always the cause as well as effect of the institution" (Cooley, 1956, pp.313-314). As a result, there is an interdependence between social actors and actions, with social actors and social structures. Accordingly, the society evolves progressively from individual actions, transforming at various stages, into full-fledged institutions, and the evolution processes can either be 'crescive' – evolution through instinctive actions over long periods of time such as languages -, or 'enacted' – the outcome of rational intention and invention such as written constitutions.

2.2.1 The Three Pillars of Institution

In the words of Karl Marx, "men make their own history, but they do not make it just as they please; they do not make it under circumstances chosen by themselves, but under circumstances directly encountered, given, and transmitted by the past" (Marx, 1852/1963 in Scott, 2014, p. 55). This statement draws strength from the old institutional perspective that behaviour is generated as a response to an external stimulus – an institution. In simple terms, there is little or no influence an organisation has in controlling or eliminating the exerted influence an external force has towards defining how its operations are structured. These elements of influence can be regulative, normative or cultural-cognitive in nature that provide stability and meaning to social life, through associated activities and resources that guide behaviour and resist change (Scott, 2014). They form a continuum moving "from the conscious to the unconscious, from the legally enforced to the taken for granted" (Hoffman, 1997, p.36). Accordingly, an organisation tends to remain consistent over time – unless its accompanying institution undergoes incremental or revolutionary change - in the pattern it interacts, communicates, and remains relevant in the social world. This includes how its image is preserved through continuous management of the impression that it conforms to the established regulations, norms and culture prevalent in its social, economic and political world. In the context of this study, this insight particularly informs the standpoint that organisations may be motivated to manage the impression that they conform to their defining

institutional logic, with the aim of maintaining legitimacy and to be seen as consistently conforming to the values of their institutional field.

From the regulative-pillar perspective, institutions are established to constrain and regularise behaviour through rule-setting, monitoring, and sanctioning activities (Scott, 2014); they ensure the shift of interests for the purpose of impacting certain behaviours and reinforcing specific practices (Meyer, Greenwood, Oliver, Sahlin, & Suddaby, 2008). By implication, the formation of rules, inspection of the various organisations' conformity, and by extension, the possibility for the manipulation of sanctions – rewards or punishments –, to ensure future compliance or induce deterrence, portray the capacity of the regulatory processes. The institutional logic on which the regulative pillar is established is such that individuals craft rules that are thought to advance their interests, and individuals conform to rules as they seek to obtain the rewards of adherence or avoid the sanctions attributable to non-compliance (Scott, 2014).

Simon (1997) posited that in the process of acceptance into an organisational membership, individual members are expected to conform to specified organisational value premises to guide their decisions. Thereby, behaviour in organisations becomes rational because discretion on choices is constrained and the conduct of individuals are guided by rules (Scott, 2014). A corporate entity seeking to be listed on a recognised stock exchange must be willing to subscribe to and abide by the rules and regulations set by securities and exchange regulators. Consequently, the regulators craft 'performance programmes' to guide routine behaviour and 'search programmes' to comply when faced with unusual tasks, with most behaviours in organisations governed by performance programmes – prescribed routines which guide individuals confronted with recurring demands.

As a result, those routines significantly reduce the discretion subscribers would take so that they make few choices and become circumscribed to the choices they do make, which ultimately motivates them to behave rationally (Simon, 1997), including seeking all forms of impression that they comply with set rules, even if they are not compliant to the rules set to guide their actions. However, it should be noted that rather than operating in an authoritative and exogenous way, there is a tendency that many rules and regulations are sufficiently controversial or unclear that they do not provide clear prescriptions for conduct (Scott, 2014). Consequently, rules become better conceived as a mechanism for sense-making and collective interpretation (Weick, 1995), focusing more on normative and cognitive than coercive elements for its effect (Suchman & Edelman, 1996).

The second pillar – the normative pillar - considered to be lower in values than the regulative pillar, places emphasis on the normative rules that suggest a prescriptive, evaluative, and obligatory dimension into social life (Scott, 2014). Normative systems comprise both values and norms with the former implying the

conception of the favoured or the desirable, in conjunction with the formulation of standards to which prevalent structures or conducts can be compared and assessed, while the latter specify how things ought to be done or suggesting how specified actors are supposed to behave, defining legitimate means to pursue valued ends. These systems create expectations and commonality of actions that are held by salient actors in similar situations.

Consequently, the consideration of norms in individual actions oscillate between the logic of 'appropriateness' versus the logic of 'instrumentality' (p.65), that is, the balance in selecting the appropriate behaviour given a certain situation and the adoption of a choice of behaviour which serves the best interest of the individual. Similar, but not adequate to the regulative pillar, confronting normative systems and deviating from common values can evoke feelings with the violation of norms which include principally a sense of shame or disgrace. Alternatively, for those who exhibit compliance or attainment of norms, feelings of respect and honour, as the conformity to or violation of norms connote a significant measure of self-evaluation: heightened remorse or effects on self-respect, which provide powerful inducements to comply with normative expectations.

Hence, it is arguable to state that, in organisations with expected levels of performance, such performance levels tend to be a normative system where an attainment of below or above such expectation attract the view of incompetence or competence, respectively, of those charged with the responsibility for maintaining the expectations of the stakeholders. It is a usual norm that shareholders of a business entity expect their investments to not attract losses but profits, as such, any declared performance by the management of such entity which fails to attain the least expected return, may be attributed to the incompetence of the management board in ensuring the profitability of their investments. Consequently, the management board, on the other hand, devise all forms of strategies to create the impression, internalised and imposed through pressure, that they meet such expectations to avoid the shame of incompetence and may in extremis use deceptive means to construct unrealistic, or potentially, fraudulent results for the purpose of earning the respect and honour of the stakeholders.

Thirdly, the cultural-cognitive pillar emphasises the elements of institutions that focuses on the centrality and impact of culture and cognition on organisational behaviour. This pillar deals with the shared conceptions that comprises "the nature of social reality and create the frames through which meaning is made" (Scott, 2014, p. 67). Specifically, it informs the contemporary effort of explaining institutions from the neoinstitutionalism perspective within sociology and organisational studies. Be that as it may, the rationale behind the cultural-cognitive explanation of individual behaviour is that a collection of

internalised symbolic representation of the external world is responsible for the response of an individual to the external world of stimuli.

The action of an individual is a function of the internal representation of their external environment (D'Andrade, 1984, p. 88). Accordingly, this informs the structuring of symbols - through words, signs and gestures –, and shapes the meanings attributed to objects and activities. Subsequently, interactions among individuals create shared meanings and, thus, are maintained and adopted to interpret the contemporary stream of events (Scott, 2014). In a similar vein, the degree to which the leadership of an individual organisation conforms to shared meanings can be measured through the level of commonality (Hart & Carroll, 2015) in their communications in comparison to those of other organisations in a similar institutional field or industry sector.

On the cognitive aspect of organisational response to external stimulus, prior studies reveal that cognitive frames develop into diverse information-processing activities. From prioritising the attention given to various information, the modality for encoding such information, how it is retained, retrieved, and organised into memory, to how meanings will be attached to it, thus affecting predictions, judgements, evaluations, and inferences (Fiol, 2002; Markus & Zajonc, 1985; Meindl, Stubbart, & Porac, 1996). From the cultural viewpoint, the focus is on the semiotic dimensions of culture, viewed as both subjective beliefs and symbolic systems, where the symbolic systems are viewed as objective and external to individual actors (Scott, 2014). Accordingly, symbolic processes work to construct social reality, define social actors and social actions. For cultural-cognitive explanation of organisational behaviour, the compliance of individual organisation to the cultural frameworks occurs when other types of actions are inconceivable, creating the pathway for routines based on the manner in which things were conducted in the past.

In conclusion, although central to the proposition that organisational behaviour is a function of the imposing influence of institutions, nevertheless, it is important to note that the resources that sustain an organisation are internally generated while rules and norms are preserved and modified through human behaviour (Hallett & Ventresca, 2006). This is particularly manifest in the affirmation of Stinchcombe (1997) that:

> "The guts of institutions is that somebody somewhere really cares to hold an organization to the standards and is often paid to do that. Sometimes that somebody is inside the organization, maintaining its competence. Sometimes it is an accrediting body, sending out volunteers to see if there is really any algebra in the algebra course. And sometimes that somebody, or his or her commitment is lacking, in which case the center cannot hold, and mere anarchy is loosed upon the world" (p. 18).

Accordingly, the pressures on, and the interests and desires of individuals are shaped by institutional forces structuring the possibilities for action and behaviour which could result in the persistence or change of such behaviour. On the other hand, macro-institutional effects create search programmes and performance programmes for meaning-making through standardised and normative processes of classification and categorisation. These processes of performance and meaning-making are recursive and self-reinforcing (Colyvas & Powell, 2006).

Contemporarily, the interpretivist school of institutional thinking (Meyer, 2003; Zibler, 2002) have posited that the early institutional theory approach devotes too much effort in explaining and justifying the diffusion patterns of institutions while neglecting the impact the diffusion processes have in the originating and the adopting context of institutions (Meyer, 2013). Accordingly, one of the fundamental assumptions of the Schützian legacy is that "action is meaningful and that meaning is constituted through rules that are specific to the social field" (Meyer, 2013, p. 521). This insight is reinforced by Whetten (2009) who emphasised that there is need to approach institutional analysis from the perspective of comparative organisational study, to provide more focus on organisations and how they vary across different sectors (Amarante, 2016), with the objective of understanding action from the subjective meaning of the actor.

Consequently, the micro-sociological approach proposed by Schutz focused on how actions are constituted by ordinary members of the society and how those actions shape the everyday world they live in and the conditions and principles to which intersubjectively shared meaning is instituted, and as a matter of consequence, how common understanding is made possible (Schütz, 1962). This gives more regard to the interactive construction of social meaning and knowledge rather than those subjectively imposed by the constitutional regulations. In similar vein, this study draws on the Schützian approach in the evaluation of the financial communications of corporate organisations in light of the institutions they belong to, how they differ from one institutional field to another, and their language use in similar industry or economic contexts.

Returning to the literature on organisations and institutions, the phenomenological approach to institutions elaborated that individuals work with typifications of actions, situations and persons which are a product of continuous interaction and communication (Meyer, 2013); "they portray typical actors and identities, recognize typical actions and assign typical meanings" (p.521). For the purpose of interpreting and understanding the situation they are confronted with, individuals are motivated to draw on the recipe knowledge that is provided by the everyday social world they live in. This recipe stock of knowledge, built up by individuals from the experiences of their predecessors and preceding events, is shared to different contexts they come across in their routine activities. Accordingly, all preferences and interests,

rationalities, choices among alternatives and decisions which are ever imaginable lie within these borders; also inclusive, are all forms of innovations and ingenious responses that could be devised by these individuals when faced with crises and unprecedented shocks which triggers reactions that could sometimes lie between what is legal and what is moral. Hence, the selection of actions outside of these borders may be as a result of an individual organisation operating with a higher level of discretion (Abrahamson & Hambrick, 1997) or merely being a social deviant from the institutional norm (Thornton & Ocasio, 2013).

Nevertheless, the reciprocity of individual action which is typified and scripted and the peculiarity of the individual actor expected to perform this script is core to the standpoint that institutions are constitutive for social actors and actorhood. This buttresses the claim of organisational institutionalism against rational choice models which stipulates that the preferences and interests of individual actors are a function of, and do not precede, the institutional order to which they belong. Instead of institutions serving actors in fostering their individual or collective interests, attainable through institutionalisation, not only patterns of premeditated interactions are instituted, but also peculiar social categories of actors, whose social identities, interests and worldviews only makes meaning within the accumulated body of social knowledge that gives shape to them (Meyer, 2013;). This leads to the concept of institutional logic.

2.3 Institutional Logic and Isomorphism

The concept of institutional logic can be clearly understood through the context of institutional theory and institutional analysis (Thornton & Ocasio, 2013). The term was introduced by Alford and Friedland (1985) for the purpose of describing the contradictory practices and beliefs dominant in the institutions of contemporary western societies. They view three contending institutional orders of capitalism, state bureaucracy, and political democracy as significant factors that structure how individuals and organisations engage in political struggles. These indispensable factors have varying practices and beliefs that shape their behaviours in various contexts (Thornton & Ocasio, 2013). Furthermore, Friedland and Alford (1991) developed this concept by exploring the interrelationships between individuals, organisations, and the society. They view institutions as “supraorganizational patterns” of operations founded in materialistic and symbolic systems through which individuals and organisations make their experiences meaningful, by producing and reproducing their material lives (Thornton & Ocasio, 2013, p. 101).

By rejecting the individualistic and rational choice standpoints alongside the macro structural viewpoints, they posited that each of the institutional orders possess a fundamental and central logic that propels its organising principles, as well as supplying the social actors with a vocabulary of motive and a sense of

identity. Accordingly, these practices and symbols become accessible to individuals, groups, and organisations to manipulate and be deployed to their own self-interest (Friedland & Alford, 1991). In view of this, the central institutions of the society - the bureaucratic state, the capitalist market, religion, households – each has a peculiar and defining central logic that sets the boundary for both the ends of individual behaviour, as well as the means for exhibiting the behaviours making the individuals, organisations and society the constituent part of the institutions. Nevertheless, in the process of institutions constraining the discretion and actions of individuals, groups and organisations, they also provide the cultural resources for the continuous transformation of the identities of the social actors, including organisational leaders. Consequently, the defining industry characteristics of companies in say the oil and gas industry and their reactions to an external stimulus, for example government regulation, would be different to the industry characteristics and responses of organisations in the computer programming industry.

In another study, Jackall's (1988) ethnographic analysis of ethical conflicts in corporations described institutional logic as a contingent set of rules, premiums and sanctions, developed through experience and in a complicated manner which people in specific contexts produce and reproduce, in such a manner as to enable the regularisation and prediction of their behaviour in an accompanying perspective. This creates a perspective for which a particular social world works. This aligns with the view of Friedland and Alford (1991) in suggesting institutional logics as an embodiment of various practices, maintained and recreated through cultural and or normative assumptions and political struggles. Accordingly, Thornton and Ocasio (1999, p. 804) defined institutional logic, based on the concepts of Jackall (1988) and Friedland and Alford (1991), as the "the socially constructed, historical patterns of material practices, assumptions, values, beliefs, and rules by which individuals produce and reproduce their material subsistence, organize time and space, and provide meaning to their social reality". Based on this definition, institutional logics creates a connection between individual agency and cognition and socially crafted institutional practices and regulatory structures. With the views of Friedland and Alford (1991) being structural and symbolic, Jackall's (1988) view is both structural and normative. In view of this, Thornton and Ocasio (1999) integrated, as the three indispensable and complementary dimensions of institutions, the structural (coercive), normative and symbolic (cognitive) systems, rather than independent coercive, normative and cognitive carriers as proposed by alternative approaches.

The proposition of prior research provides precursors towards exploring and advancing the institutional logics approach, based on the interdependence of a set of logics that create some context for understanding the influence of the society on the actions of an individual in a specific domain (Boltanski & Thévenot 1991; DiMaggio, 1991; Fligstein, 1987, 1993). Common with these studies is the analysis of

conflicting institutional logics without an encompassing focus on isomorphism. Fligstein (1993) proposed three competing conceptions of control that define the corporate governance of structurally and operationally large industrial firms in the manufacturing, marketing and finance industries. For Fligstein (1993), what shaped the formation of these competing conceptions or logics of action are the various intra-organisational power and field-level or industry-level struggles to influence and dictate market competition and to challenge state legislation towards the attainment of their individual or corporate objectives.

The choice of the leadership style by the top management of a corporate organisation is influenced by their experience in and what they rationalise internally as best for the organisation. Similarly, at the lower level of management, employees battle it out amongst themselves in their quest to rise to the top echelon of the corporation in a world of continuous organisational and professional innovation, significant economic and industrial change, within an accompanying powerful state (Chandler, 1962). Subsequently, Fligstein (1993) argues that the primary carriers of the contending control conceptions are the individual executives, nevertheless, the conceptions may not be totally institutionalised, and this is due to the fact that none of the alternative conceptions of control in institutional logics became dominant (Kim, 1999).

In a prior study, Boltanski and Thévenot (1991) apply a classification of cultural collections that present different justifications to understand the way people disagree, take compromise, and sort out lasting agreements. The perception is on culture being a social resource used strategically by individuals, with culture seen beyond just a motivating factor towards action, but also a tool that provides justification for actions. They also illustrated in various scenarios of interactions that legitimacy of action changes based on the context in which it is negotiated and evaluated, with "the ideal types being six different worlds – the inspired, domestic, fame, civic, market and industrial" (Thornton & Ocasio, 2013, p. 103). Compromise of what is legitimate becomes fragile when backed up with ingenious groundwork to support them in the specific arrangements of the individual organisational field. Individual actors could be placed in incongruent and compromising situations by putting together or transposing elements combined from the different worlds, which could create a need to manage the impression held on them.

Furthermore, emerging contemporary perspectives on the pursuit of attention by organisations focus on how organisational reactions and responses to economic and social stimuli are mediated by decision makers in the top management of organisations (Ocasio, 1995, 1997). Various theoretically and empirically provided concepts and mechanisms provide explanations to the moderation of organisational attention by institutions. In the theoretical analysis of the responses of organisations to economic adversity, Ocasio (1995) proposed that the allocation of attention to alternative blueprints for perceiving,

interpreting, evaluating and responding to environmental circumstances is influenced by the institutional logic with which the organisational field is identified. Accordingly, organisations and individuals are provided with rules and conventions through the logics guiding their organisational field for deciding the allocation of attention to potential problems, the preference of solutions and the linkage of solutions to commensurate problems (March & Olsen, 1976).

In view of this, the mechanisms through which institutions generate attention emanate through a set of values established on legitimacy which are adopted through commonality of responses of organisations within the same organisational field; the criticality of the potential problems and the relevance of the solutions to the survival of the organisational field and the global economy. In addition, the provision and indoctrination of the understanding of decision makers with respect to their interests and identities which, consequently, provide the motivation for action within a confined decision premise. This was particularly the case with the responses of some financial institutions and regulatory authorities during the 2007-2008 economic crisis where the legitimacy of the action of government to bailout certain banks was based on the need to rescue the global economy from collapsing. Consequently, stakeholders like taxpayers were made to believe that such a move was in their own interest and that the failure to use the taxes paid by them to bailout such institutions would have a ripple effect on their livelihood in the long-term, thereby creating a confined premise for such stakeholders to accept the decision of the government. This illustrates the nature of institutional and or organisational leaders in the use of attention and various techniques to create an impression that their actions are legitimate and justifiable over time. It is, therefore, beneficial to review the literature on institutional leadership and legitimacy.

2.4 Institutional Leadership and Legitimacy

One of the early insights on institutional analysis, the study of institutional leadership, examines the role of agency in the analysis of institutions. An approach introduced by Philip Selznick, it focuses not only on describing how organisations become institutions but also on the characteristics of the leaders of these organisations (Washington, Boal & Davis, 2013). This form of leadership is different from traditional leadership as it focuses on the promotion and protection of premeditated values (Selznick, 1957). In the contemporary study of Washington et al. (2013), they exemplify the extension of the original ideas of Selznick on institutional leadership by considering their contribution to institutionalisation processes. In addition, they also examined the three functions of institutional leaders, firstly to be the management of the internal consistency of an organisation which explains the commitment of leaders to the values and mission of their organisations. Secondly, the development of external supporting mechanisms to legitimise the actions of the organisation; and to overcome external enemies through the use of instrumental agency. Finally, hierarchical and instrumental power with a future leaning vision with respect

to organisational leadership as opposed to institutional leadership (p.723). With further extensions to Selznick's work, scholars have added more insights in understanding institutional leadership.

Tengblad (2004) examined the role of Chief Executive Officers (CEOs) which he posits as managing the internal and external expectations imposed on organisations. This is considered with specific emphasis on how CEOs manage the financial expectations imposed on them by the environment and sometimes self-imposed due to their individual charisma and precedent successes. The finding of this study was on the incremental use of organisational culture as a powerful management and communication tool. Companies selected for this study used booklets and brochures to transmit messages on the desired state of affairs by crafting corporate mission and vision statements, with numerous efforts committed towards spreading these messages down the organisational chain of command, and also to external stakeholders (Tengblad, 2004, p. 592). Tengblad argued that CEOs often resorted to deploying the mission statement of a firm as a way of making known the financial expectations and corporate objectives of the organisation. Accordingly, CEOs attempted not just to paint a favourable picture of their organisations but also wanted to demonstrate that they were committed to doing all they could to improve the financial outlook of their organisation. Similar to the conclusion of Selznick (1957), Tengblad (2004) posits that CEOs in his study devoted enormous resources in managing the external expectations of their firms, nevertheless, this management did not amount to changes to the organisation as a whole.

In view of this, it is evident that the management of organisations play a vital role in developing the vision and mission of their firms. Nevertheless, while the process of setting the vision of an organisation is a strategic function (Boal & Schultz, 2007; Nutt & Backoff, 1997), it is also, from an institutional perspective, an inherently political function. The visions crafted for organisations result in the generation of stories, myths and ceremonies (Meyer & Rowan, 1977), which creates a remembrance of past accomplishments and also the reinforcement of the vital values of an organisation (Bolman & Deal, 2013). Accordingly, stories are generated from those past accomplishments of an organisation which tend to serve as precedents for understanding the social world in which the organisation operates. These precedents help to create an understanding of the rationale behind corporate actions and the reasons behind visible behaviour (Berry, 2001). Consequently, successors in organisational leadership develop a new collective story based on the exchanges among leaders of an organisation – past and present – which further creates and evolves a social learning system for maintaining internal consistency, which is an essential technique for organisational leaders to balance the past, present and future actions in an organisation. It is such acts of creating, telling and retelling of significant stories in an organisation that promotes the connection of the organisation's past, present and the future. Furthermore, ceremonial events are also

vital tools through which internal consistency is promoted in an institutional or organisational setting (Bolman & Deal, 2013).

Washington, Boal and Davis (2013) examined the speech given during the farewell address delivered to the Corps of Cadets at West Point on May 12, 1962, which portrays the strategies used by institutional leaders in taking advantage of ceremonial traditions to symbolically shape the behaviours of individuals. In the same vein, they examined the cadet motto of 'Duty, Honour, Country' which powerfully defines the historical identity of the United States Military Academy (USMA) as well as guiding the behaviour of the graduates of the USMA for the rest of their lives (Boal & Schultz, 2007; Ellis & Moore, 1974). The military code in its line emphasised these three words as what "…reverently dictates what you want to be, what you can be, what you will be…" (Duffy & Carpenter, 1997, p. 197-200). These words signify how institutional leaders focus on the transmission of the character, mission and values of an organisation to potential future leaders to ensure they remain consistent with their founding principles.

Furthermore, the speech contains a reminder of the need to reinforce the commitment of the military to these values in a way as to "…cherish them, and pass them on to those who will follow after you…" (Thomason, 1971, p.1). In view of this, it is also notable that in the corporate business context, the leadership of corporate entities ensures that new recruits in organisations are infused with the founding principles, mission and vision statements and with the so-called 'modus operandi' of a firm, through intensive induction programmes which creates an identity in those recruits, by making them distinct from the staff of other organisations. In the long run, the staff of such firms are reminded of their commitment to these principles through on-the-job training and retraining programmes. Consequently, these principles become the sworn-identity for driving the present and future conduct of the members of organisations.

Accordingly, institutional leaders partake in structuring an autobiographical pattern of the historical accounts of their organisations in a way that produces a coherent picture of the identity of an organisation, the roles of the leaders within their organisation, the realities of organisational life, as well as preparing the organisation to effectively respond to, sometimes unprecedented, future environmental changes (Washington, Boal & Davis, 2013, p. 726). Consequently, institutional leaders frame an identity for themselves that ensures the continuity between past accomplishments with future goals and actions. By considering the development of the vision of an effective leader, Strange & Mumford (2005) discovered that vision emerged in a situation where institutional leaders reflected on the fortunes of past accomplishments and resultant behaviours in developing mental models for the future. This process of forming the vision induces leaders to employ a descriptive mental model of the organisation. The model articulates the defining themes and relationships that prescribe actions and influence outcomes, with

specific consideration on organisation members' experience to suggest a prescriptive model for situations yet to be encountered by the organisation and its members. Consequently, the level and structure of coherence demanded by the life story schema in conjunction with the story telling act connote the vision formation process ongoing within organisations.

Furthermore, in the process of maintaining coherence for an organisation - with respect to its enduring values, predetermined expectations, and clearly defined responsibilities, which are manifested in the organisation's vision statement – opportunities arise for institutional leaders to define the approach to undertake on behalf of an organisation to tackle future circumstances. Even though all participants within an organisation setting partake in the formation of the story of an organisation, there are powerful individuals within institutional leadership that produce narratives which serve as precedents for other participants to follow (Czarniawska, 1997). This renders the audience passive contributors in the process of setting the direction an organisation pursues. Consequently, the level of discretion and control held by the leader of an organisation over the formation of the story telling process, and the way individual participants interpret and legitimise the organisation's path over time determine the level of control organisational leaders hold on the vision formation process.

Accordingly, the attainment of the mission of an organisation and its consequent behaviours are significantly influenced by the level of control held and discretion afforded to an organisational leader. Although there are varying levels of experience possessed by individuals within an organisation, there is, however, a unique position reserved for organisational or institutional leaders to influence the critical feedback on the evaluation of past mental models in the vision formation process. The wealth of experience from the background of an institutional leader is significantly essential in developing the descriptive mental models of the future actions of an organisation. Also, the experience of the leader with the structured models is developed on an ongoing basis as they are confronted with the demands of contemporary organisational circumstances, which consequently influences the development of current mental models (Washington et al. 2013).

In view of this, the life story of an institutional leader culminates in the formation of the vision of an organisation as well as influencing the life story of the organisation itself and those of its individual participants. It is arguable that the leaders of corporate organisations - especially the for-profit organisations – usually have predetermined personal objectives they aim to attain, and as such, a story about their personal career achievements is built right from their inclusion in the operations of the organisation, which ultimately influences the vision they set for their organisations. In view of this, the personal vision of the institutional leaders is attained through the machinery of the corporate vision of

organisations. Accordingly, the need for coherence in both the stories of the institutional leader's and organisation's stories suggest that the position and power of an institutional leader imply the impartation of their own meaning and sense-making to the organisation (Washington et al. 2013). By extension, the meanings to actions and events are processed through the lenses of thematic and causal coherence with respect to the histories of the institutional leader and the organisation.

From the study carried out by Greiner (2002), it was observed that the head of General Electric, Jack Welch taught a course on Leadership and Values about seven times a year to highly-promising middle-level managers. In addition, while it was observed that about sixty percent of the senior level courses were taught by corporate leaders, Welch himself often stood in front of the group while those courses were taught. This is a form of instilling the image of the leader in the minds and thoughts of aspiring middle-level managers, to aim at idolising the top leader and to follow the prescribed pathway towards rising to the top leadership positions in organisations. Consequently, the prescribed pathway provides a potent technique for maintaining the internal consistency of the participants within organisations to carry forward the guiding principles of organisations. As well as ensuring internal consistency, organisations also develop external supporting mechanisms for the purpose of maintaining their survival and obtaining legitimacy for their actions.

This survival requires the maintenance of balance between stability and flexibility (Brown & Eisenhardt, 1998). While it is essential to use the mechanisms of story-telling and vision-setting to maintain internal consistency and enhance long-term stability in organisations, without it, it would be difficult for organisations to retain knowledge of past events. Consequently, a lack of such knowledge creates a cyclical state of flux where an organisation finds it difficult to move any significant distance from its founding base. This is due to the absence of any basis for evaluating new innovations. In order to overcome this inertia problem, institutional leaders serve as cognitive network brokers (Burt, 1992). Through continuous interaction with a wide range of networks, the internal and external boundaries of the organisation, institutional leaders are encouraged to devise new ideas to solve old problems as well as discover new problems to which known or knowable ideas can be applied (Kraatz & Moore, 2002). In view of this, one of the ways in which institutional leaders ensure their survival is through the maintenance of the legitimacy of their actions. Legitimacy as defined is the "generalized perception that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs and definitions" (Suchman, 1995, p. 574). It is the perception organisations hold in believing that their actions or inactions do not contravene any guiding principle.

Accordingly, in the business world, there are certain accounting principles that guide the reporting process of financial and non-financial activities for the purpose of promoting the common understanding and comparability of the performances of firms in similar sectors. The legitimacy of reporting activities in those firms is ensured when they do not go out of the stipulated boundaries set in those principles. In view of this, this study posits that the commonality of reporting processes among similar firms is likely to ensure the legitimacy of their reporting actions. In view of this, institutional theory enables the understanding that as companies become embedded in the economic and institutional environment, it becomes easy to conclude on the cultural meanings, ideals and norms that have been ratified by the society as acceptable. These norms become the flexible guiding principle that dictate the actions of companies in the process of pursuing congruence with the society and in the legal environment (Washington et al. 2013).

Accordingly, organisations and their accompanying practices are founded upon three forms of legitimacy: normative, regulatory and cognitive legitimacy (Scott, 2001). The normative legitimacy connotes new practices that are consistent with the values of the institutional environment; the regulatory legitimacy is attained when new practices are supported by existing rules and legislations; while cognitive or cultural legitimacy is fostered when new practices are connected to wider belief systems within the institutional environment. Legitimacy, in general, is attained when an organisation receives endorsement and support by a segment of the society significantly large enough to guarantee its effectiveness and survival (Pfeffer & Salancik, 1978). Accordingly, an organisation does not need the absolute support of the entire populace but of the segment of the society powerful and influential enough to remain legitimate in the face of external attacks. Consequently, as organisations ingeniously use procedures socially acceptable to address potentially controversial actions, an organisation becomes well positioned to manage the impression that it conducts its activities in a rational and legitimate way (Scott, 1987a).

In view of the aforementioned, there is a relationship between the legitimacy of organisations or institutions and those attempting to lead them. For the purpose of understanding the nature of institutional leadership, it is important to take into consideration the core meaning and significance of the term institution (Selznick, 1957, p. 4). Several attempts have been made to clearly distinguish between an organisation and institution. According to Selznick (1957, p. 5), organisations are “a rational instrument engineered to do a job”, they are set up to fulfil the existential reasons for the creation of institutions. Institution on the other hand is “a natural product of social needs and pressures – a responsive, adaptive organism” (p. 5). Accordingly, it is arguable that the flaw in the actions of organisations set the machinery for the creation of institutions. The responsive and adaptive nature of institutions connote, to a great extent, the influence the actions of organisations have on the creation of institutions.

Similarly, it also means that as institutions respond to the latest actions of organisations, boundaries are set to regulate such actions until new actions not covered under prevalent legislations are discovered by regulatory institutions. Pressure is thereby mounted on organisations to either conform to the level of compliance expected from institutions, or to seek to take advantage of grey areas not covered by legislations. Consequently, the pressures imposed on organisations are identifiable from two sources – the external or wider environment and the internal activities within organisations. One of such pressures imposed on organisations from the external environment is the restriction on the degree of discretion afforded to organisational leaders in influencing organisational outcomes (Abrahamson & Hambrick, 1997). The presence of such pressures create administrative ideologies which are potent techniques for communicating and ensuring self-defence (Washington et al. 2013). These techniques culminate into what organisational leaders deploy in overcoming external enemies.

Accordingly, one of the tasks of organisational or institutional leaders is to intuitively use all resources at their disposal to overcome the pressures coming from the external or wider environment. Friedland and Alford (1991) suggest that there are various belief systems through which organisational fields operate, and which also differ fundamentally with respect to their content and the logic guiding their existence, central assumptions, ordering principles and subsequent operations. Contrarily, Washington, Forman, Suddaby, and Ventresca (2005) argue that there is a possibility several institutions compete to take control over an organisational field with different sources of interests and identities. By assessing the tactic of the National Collegiate Athletic Association (NCAA), they further argued that institutions defend themselves against external enemies. In view of this, such defence is structured to protect against the shutting down of their current practice (Washington et al. 2013). Similarly, Oliver (1992) argues that when a persistent institutionalised practice is threatened, there is a likelihood of decline in the functional necessity of the practice. Consequently, organisations engage all forms of techniques to protect against any form of practice that threatens the core activities that define their common existence. These threats can be in the form of political pressures – changes in laws or regulations; technical pressures – practices from innovation; or social practices – that is when organisations decide to stop performing certain practices (Washington et al. 2013).

In a study on the politics prevalent in traditional medicine, Patterson (2007) identified the vehement attacks launched by practitioners of traditional medicine on contemporary chiropractic medicine. In the guise of using basic science laws to regulate the general medical profession, all practitioners of medicine had to pass a set of science benchmarks that was apparently difficult for chiropractic medicine to pass, and this was clearly known to the traditional medicine community. Old guards of an institutionalised setting thereby make it difficult for new entrants to change the ancient landmarks set by the pioneers of

such institutions. Similarly, new entrants are faced with difficult conditions to meet before being recognised in established institutions. This usually occurs as old guards try in all possible ways to limit the level of discretion afforded to member organisations, prevent the diffusion of the power and ensure right of pioneer organisations to lead institutions. Accordingly, the conditions placed for the recognition of new entrants significantly impose pressure on them and positions the old guards as external enemies that must be conquered by all means deployable, including the management of impression. Furthermore, another form of attack originates from the fragmentation of the population from which institutional practices originate (Zucker, 1987). Owing to the legitimacy of institutions being identifiable with a specific segment or given population of a society, the breakdown of such population – either politically or socially -, reduces the support for the population and its practices.

As aforementioned, institutional leaders are motivated to intuitively deploy all resources available to them in the course of managing their organisations and defending them against pressures coming from the external or wider environment. However, ensuring the management of organisations with the view of attaining predetermined organisational outcomes or overcoming external expectations is a function of the level of discretion afforded to organisational leaders (Hambrick & Finkelstein, 1987). From the literature on organisational or institutional leadership, the establishment and reinforcement of the culture within organisations is perpetuated through the leadership of organisations, especially the Chief Executive Officers (CEOs). Accordingly, the actions of the leadership of organisations through the CEOs can provide insight on the level of discretion afforded to them in the course of influencing organisational outcomes. It follows that as organisations belong to and are regulated by logics in different institutional fields (Thornton & Ocasio, 2013), so are the levels of discretion afforded to the managers of organisations in different institutional fields in influencing organisational outcomes (Abrahamson & Hambrick, 1997; Hambrick & Abrahamson, 1995; Hambrick & Finkelstein, 1987; McClelland, Liang, & Barker III, 2010). Furthermore, insights from the literature on organisational and institutional leadership suggests that member organisations of a defining institution must align to the logic of their institution by attending to similar stimuli and producing similar responses, in order to maintain the legitimacy of their actions (Suchman, 1995).

In the context of this study, these various insights suggest that as the leaders of corporate organisations are bound by the principle of legitimacy to act within the scope of the discretion afforded to them, it is possible to demarcate them according to the level of discretion afforded to them in influencing organisational outcomes. In addition, owing to the standpoint that organisational leaders may likely deploy ingenious means and resources for managing the impression that they conform to the logic (e.g. the level of discretion) guiding their defined institutions, the language used in communicating to stakeholders on

their level of conformity to such expectations can be revealing of the tactics used in managing those impressions (Brennan & Merkl-Davies, 2013). One of such potential resources is the use of language in a way that they maintain both the legitimacy of their actions and in the communication of the performance results of their company. In view of this, it is vital to review the interplay between corporate leadership, the discretion afforded to corporate managers in attending to external factors, and impression management in their corporate communications. Accordingly, the next section follows with the introduction of the literature on attentional homogeneity and industry-level discretion, a theory that helps classify organisations into two major institutional fields of high and low discretion industry groups.

2.5 Attentional Homogeneity and Industry-Level Discretion

The leadership (also referred to as top executives) of different organisations within the same industry classification often share similar understandings about their firms and environments (Abrahamson & Fombrun, 1994; Hambrick, 1982; Huff, 1982, 1990; Porac, Thomas & Badden-Fuller, 1989; Reger & Huff, 1993; Spender, 1989; Walsh, 1995). Consequently, these top executives share homogenous or isomorphic cognitive traits which may have significant consequences for industries and member organisations. However, authors differ on the possibility of these consequences to either be beneficial or harmful (Abrahamson & Hambrick, 1997). One of the pessimistic views of the consequences argues that an industry could be blinded to external challenges when it possesses a high level of homogeneity (Halberstam, 1986). In Halberstam's study, he claimed that the U.S auto traders in the 1970s overlooked important competitive challenges threatening the auto industry because of their narrow focus. Consequently, their homogenous responses limited their capacity to forge innovative ways to preserve their relevance in the global auto industry.

On the other hand, proponents of the beneficial consequences of high level homogeneity or isomorphism posit that the concentration of attention, by the top executives of firms, to the same defining logic in their firms and environments, will enable them to respond to the logic in a similar pattern, as well as recognise the same threats to their industry (Abrahamson & Fombrun, 1992). As a result, these firms become more motivated to galvanise their common interests in opposing these threats, and understand the rationale for collective action in opposing those threats. Furthermore, the collectiveness of actions of organisations in their cognitive responses may inhibit industry rivalry, owing to the potential ability of top managers in correctly interpreting the strategic moves and counter-moves of their rival organisations (Porter, 1980, p. 21). In summary, top managers' isomorphic responses or cognitive homogeneity have potential harm or benefit for an industry as a whole, or even both. The potentially significant consequences of cognitive homogeneity may span across an entire industry, the member organisations that form such industries, and the top executives that manage them (Abrahamson & Hambrick, 1997).

Nevertheless, it is noteworthy that cognitive homogeneity is not absolute across all industries. Some are quite heterogeneous, with top executives portraying differences in their cognition (Abrahamson & Fombrun, 1994; Walsh, 1995). Prior research reveals that, in the offshore pumps industry for example, the cognition models of top managers tended to be heterogeneous (Daniels, Johnson, & De Chartony, 1994). Similarly, Reger and Palmer (1996) discovered that the increment of the environmental dynamism in the banking industry in the 1980s led to increased heterogeneity in the constructs contemplated by the top executives in their industry sector. However, Abrahamson and Hambrick, (1997) note that the factors that necessitate the similarity or dissimilarity in the cognitive responses of top executives in an industry are relatively unknown. Hence, as there is potential for cognitive homogeneity to have significant impact on the health and survival of firms and entire industries, the need to commit research efforts towards understanding its determinants cannot be overemphasised.

An important debate among organisation theorists is to contend the distinction between the determinants of organisational outcomes as either a function of strategic choice (Child, 1972), or environmental selection (Aldrich, 1979, Hannan & Freeman, 1977). For the purpose of establishing a common ground between these two conflicting standpoints, Hambrick and Finkelstein (1987) proposed two arguments. On the one hand, they argued that top executives have significant differences in the amount of discretion, or latitude of action they are afforded in influencing organisational outcomes. In tandem with this, they also argued that the level of discretion possessed by top executives varies widely from industry to industry, based on the institutional logic predominant in those industries. This view stems from the idea that if discretion confers diverse options to organisations within an industry, then it is logical to hypothesise that it also negatively impacts on the homogeneity of managerial attention levels of the different organisations in such industry (Abrahamson & Hambrick, 1997; Nelson, 1991). On the other hand, they argued that the degree of managerial discretion is not a function of random events, rather, a product of specifiable and objective industry determinants.

In the seminal work of Hambrick and Finkelstein (1987), they argued that tripartite level factors affect managerial discretion – the industry-, organisational-, and individual-level factors. From the industry level, otherwise termed industry-level discretion, they proposed that the determinants at this level of analysis influence the entire amount of discretion afforded managers in an industry. In view of this, the deviation by top executives from the industry discretion is a function of individual determinants, which stems from the cognitive complexity of the top executives or political acumen; as well as diverse firm determinants, such as the size of the organisation, availability of resources, or even age. As aforementioned, discretion is not absolute (Hambrick & Finkelstein, 1987), hence, industry and organisational factors are capable of greatly influencing or shaping a manager's discretion level. Hence, discretion is also partly resident in the

cognitive capacity of a top executive (Abrahamson & Hambrick, 1997). From the work of Hambrick and Finkelstein (1987), six industry-level factors that influence industry-level discretion were noted, which were further categorised into two segments. From the first segment, the determinants are quasi-legal constraints, powerful external forces, and industry structure (Abrahamson & Hambrick, 1997, p. 515). These are considered to influence managerial discretion and are enforced through powerful stakeholders.

For quasi-legal constraints Abrahamson and Hambrick, (1997) exemplified that the level of discretion possessed by top executives is restricted by an array of governmental actors such as the courts, regulators, or state legislators. Similarly, the influence of powerful stakeholders such as powerful suppliers and buyers can limit the discretion of managers. Accordingly, the more the power exercised by the regulatory environment, the less the industry-level latitude of action afforded the top executives of an industry. For the industry structure, it is thought that, the limited competition in oligopolistic industries enhances the awareness and responsiveness of powerful competitors to each other's strategic choices, thereby, limiting discretion. Conversely, there is less confinement in fragmented industries, thereby, affording the executives of those firms more freedom to act, leading to a relatively higher level of discretion. Accordingly, this current study adopts the insight that if discretion is limited in an industry as a result of oligopolistic competition, the discretion available in their operational and financial communications will be so limited that, any deviation by any participating organisation from the industry norm could provide insights for investigating atypical and potentially deceptive communication.

From the second segment of industry-level determinants, the factors affecting industry-level discretion are product differentiability, market growth, and demand instability (Abrahamson & Hambrick, 1997). These determinants influence industry-level discretion through the instrumentality of ambiguity in means-ends relations (Hambrick & Finkelstein, 1987). Accordingly, the higher the level of ambiguity, the more the likelihood for top executives to explore a wide variety of attempted means to achieve these various ends (Barnard, 1968; Thompson, 1967). Simply put, the greater the likelihood for industry conditions to cause ambiguity or lack of clarity in unusual circumstances, the more the number of alternatives afforded to top executives in an industry and the greater the latitude of action in the selection of alternatives unknown to the stakeholders (Abrahamson & Hambrick, 1997, p. 515). This theoretical standpoint particularly informs the rationale of this study to propose that because of the significantly high level of ambiguity in some industries, such as the computer programming industry, with accompanying flexible regulation and weak control environment, the member organisations are afforded the platform for a greater number of choices or discretion. To the extent they report their performances in a way that the stakeholders are not accustomed to, otherwise termed aggressive or hard corporate communication.

Conversely, with a significantly low level of ambiguity in product differentiability, low market growth, and higher demand satiability in some industries, such as the crude petroleum and natural gas industry, with accompanying rigid regulation and strong control environment, the member organisations are afforded a restricted number of choices or discretion to the extent they report their performances in a narrow, predictable and easily understood, standard, or normative format, otherwise termed conservative or soft corporate communication. In sum, these theoretical standpoints inform the possibility of linking the logic that enables organisations to be either homogenous (isomorphic) or heterogeneous in their behaviours to the level of discretion afforded to them in the industry they are classified.

2.5.1 The Interlink Between Institutional Logic, Isomorphism and Industry-Level Discretion

The literature on Isomorphism posits the concept to be a situation where organisations have similar identity and operate in similar forms, which provides an array of processes in which an organisation develops the conscious necessity to be like other firms in the same industry categorisation (Hambrick, Finkelstein, Cho, & Jackson, 2004). Consequently, in the quest for legitimacy in both the existence and operations of organisations, individual firms had to align themselves with the requirements of the external environment, which by implication coerced parts of organisations to be loosely coupled from the central logic for which they were established. Interestingly, this view aligns with the analysis carried out in Wangrow, Schepker, and Barker III (2015) and McClelland, Liang, and Barker III, (2010) where the level of discretion afforded organisations could determine the level of isomorphic pressure they face to act either in a prescribed or proscribed manner. This isomorphic pressure determines the direction of the responses of the organisations to the external stimuli.

In addition, the theory on isomorphism posits that firms regulated by the same or similar institutional logic are expected to behave in a similar way when confronted by a stimulus from the external environment. The theory on institutional logic, which further explains isomorphism, is based on the theoretical foundation that there are various organisational fields and that different organisational fields are regulated by differing institutional logic. Specifically, institutional logic provides explanation to the thought that different organisations within the same industry classification will be regulated by similar logic, which will be different from the institutional logic that regulates firms in an entirely different industry classification. Accordingly, as different organisational fields are regulated by different institutional logics, it is expected that the responses of the firms within the same industry classification to an external stimulus will be isomorphic, albeit, different from the responses of the firms in a different organisational field or industry classification. Nevertheless, the homogeneity or heterogeneity of the responses of the firms within the same industry classification depends on the degree of discretion afforded to those organisations in their respective industries (Abrahamson & Hambrick, 1997), hence the need to interlink industry discretion and

attentional homogeneity (isomorphism) or heterogeneity in the quest to understanding organisational behaviour.

Abrahamson and Hambrick (1997) posit that industries differ in how homogenous or heterogeneous they are with respect to the cognitions and behaviours of their top management teams (TMT). Their study, based on the concept of discretion, argue that the lesser the level of discretion afforded to organisations in an industry, the more the similarity or homogeneity in their attention patterns. In contrast, the more the level of discretion afforded to organisations in an industry classification, the more varied or heterogeneous their attention patterns will be (p. 513). From prior research, it was established that the members of top management of organisations classified within the same industry often share similar logic about their organisations and environments (Abrahamson & Fombrun, 1994; Hambrick, 1982; Huff, 1982, 1990; Porac, Thomas, & Badden-Fuller, 1989; Reger & Huff, 1993; Spender, 1989; Walsh, 1995). Consequently, the responses of top managers within the same industry become homogenous or isomorphic, (Abrahamson & Hambrick, 1997), nevertheless, the homogeneity or isomorphism of such responses is dependent on the level of discretion afforded in the industry category (Wangrow, Schepker, & Barker III, 2015; McClelland, Liang, & Barker III, 2010). Although a lot of contemporary research work has been conducted on the concept of discretion, it is by far a 21st century concept. It derives its conceptual roots from the early 1970s with particular traits in the field of Sociology.

Researchers of management studies have long attempted to develop models for identifying the specific circumstances that motivate organisation managers to alter organisation decisions, actions, and performance (Wangrow, Schepker, & Barker III, 2015). While research efforts had been directed towards understanding the role of constraints in the ability of organisations and top managers to make decisions (Hannan & Freeman, 1977; Lieberson & O'Connor, 1972; Salancik & Pfeffer, 1977), the conceptualisation of discretion was not established until the seminal work of Hambrick and Finkelstein (1987). In their work, they conceptualised and articulated the idea of 'managerial discretion' which, subsequently, drew research attention that then formally developed a model for understanding the factors that afford top executives with the ability to influence organisational outcomes. Basically, discretion can be defined as the latitude of action afforded to a decision maker (Hambrick & Finkelstein, 1987), or a group of organisations (Abrahamson & Hambrick, 1997) in a given situation for the purpose of influencing a target outcome.

As a result, a high level of discretion affords leaders with a wider range of options (Campbell, Campbell, Sirmon, Bierman, & Tuggle, 2012), and greater action alternatives (Hambrick & Abrahamson, 1995). As top managers are hired in management positions to ensure the achievement of the goals of organisations,

as well as improving organisational performance and effectiveness (Barker III, Patterson Jr, & Mueller, 2001), it is critically important to understand the effect of the latitude of action afforded to them, and, specifically, to understand how such discretion manifests in their financial reporting function in the quest to influence positive or mitigate negative organisational outcomes. Accordingly, this study draws insights from institutional theory and institutional logic, the concept of discretion and how they inform organisational behaviour in the context of different industry classifications, for the purpose of understanding the effect of institutional logic and available discretion on the commonality or divergence in the behaviours of organisations with respect to their financial communications.

Returning to the work of Hambrick and Finkelstein (1987), they posit that there are sources to discretion which manifest at three levels – the individual, the organisation, and the task or external environment. It is noteworthy that while discretion is a general concept that addresses the latitude of action available to an individual or a group, it is often used interchangeably with managerial discretion. For the purpose of gaining clarity, discretion can be explained from the individual level as managerial discretion; organisational discretion from an organisation level of analysis; and as industry discretion from the industry level of analysis (Abrahamson & Hambrick, 1997). A majority of managerial discretion research directs attention to the role of the task environment, or industry characteristics, in creating and explaining managerial discretion. However, recent contemporary research efforts are directed towards understanding the microfoundations of discretion as it relates to the individual level of analysis, calling for the exploration of the opportunities available to better understand how a manager's acumen or psychological attributes influence their discretion level (Wangrow, Schepker, & Barker III, 2015).

Of particular importance to this study is the adoption of the industry level of analysis of discretion towards evaluating the financial communication patterns of organisations in different industries or institutional settings. This is not done to undermine the tremendous opportunities available at the organisation and individual levels of analysis, but, to corroborate the thematic literature on institutional theory with the industry level analysis on discretion, for the purpose of facilitating the comparative analysis of the financial communication patterns across industry categories. Hence, the need to use the industry level of discretion analysis rather than at organisational or individual level. Interestingly, a combination of similar organisations forms an industry, and by extension, the combination of the leadership of those similar organisations forms the leadership of their defining industry.

While it is emphasised that this study adopts the industry level of discretion analysis, managerial discretion is used interchangeably as industry discretion based on the premise that a combination of the discretions of the top managers in organisations within the same industry category form the aggregate

discretion in that particular industry. As a constituent part of the stepped research process this study will investigate the deviation by discrete organisations, in their financial communication patterns to evaluate differences from those of their competitors within the same industry category. This entails conducting additional organisation level analyses, other than at the industry level, to substantiate the proposition that such deviation could signal variant and potentially deceptive financial communication.

Historically, a long debate in organisation studies concerns the degree to which rational or strategic choice (Child, 1972), rather than environmental selection (Aldrich, 1979; Hannan & Freeman, 1977) determines organisational outcomes. The substantive studies conducted on managerial discretion bridges the gap between two previously conflicting views in organisational theories: population ecology and strategic choice (Hambrick & Finkelstein, 1987). The theorists on population ecology argue that organisations are inertial and constrained by internal and external pressures (Hannan & Freeman, 1977). On the one hand, internal pressures have been highlighted to include non-transferable personnel and capital investments in plant, property and equipment, while, on the other hand, external pressures include legal and fiscal entry and exit barriers, limitations on available information, and an organisation's desire to obtain legitimacy within its domain (Wangrow, Schepker, & Barker III, 2015). Conversely, theorists on rational or strategic choice contend that the strategies calculatedly chosen by top management shape organisational outcomes (Andrews, 1971). The latter view confers discretion on managers to determine an organisation's long-term goals and objectives and implement courses of action, with the discretion to diversify or discontinue its current activities (Chandler, 1962). Strategic choice theorists view organisation decision makers to be powerful enough to initiate structural change, determine the environmental domain on which to compete, and alter performance metrics (Child, 1972).

Subsequently, these conflicting views were reconciled by Hambrick and Finkelstein's (1987) discretion model by noting that many discretion forces act on a continuum, rather than solely classifying a decision as an outcome of either strategic choice or based on environmental selection. Therefore, the discretion afforded to an industry is enabled or constrained based on the extent to which each discretion force exists. For instance, in industries where the CEOs have an internal locus of control, there will be greater pursuit of innovation and greater risky decisions, while organisations are more likely to imitate the actions of their competitors in industries where the locus of control is from the external environment (Miller, Kets de Vries, & Toulouse, 1982). In view of this, it can arguably be deduced that there is likely to be a promotion of innovative or aggressive responses in an industry where the locus of control is internalised by the CEOs of those organisations, while there is likely to be restriction to conservative responses among organisations in an industry where the locus of control is derived from the external environment.

Therefore, in the context of this study, the standpoint is that the nature of the responses of organisations, regardless of the organisational field to which they belong, is manifest in different behavioural patterns including their communications, corporate reporting, including the choice of language in their corporate financial reporting function. It is proposed that in industries dominated by aggressive innovation with the CEOs having internal locus of control, the financial communication style adopted in those industries will be revealing of the semantics that signal aggressive, hard, unclear or unfamiliar communications. On the other hand, in industries dominated by conservativeness with the external environment claiming the locus of control, the financial communications style adopted in those industries will be revealing of the semantics that signal conservative, soft, clearly understood or familiar communications.

As aforementioned, Hambrick and Finkelstein (1987) contended that industry-, organisational-, and individual-level factors affect managerial discretion (cited in Wangrow, Schepker, & Barker III, 2015). The determinants at the industry-level affect the general amount of latitude of action that will be afforded to managers in an industry – a term referred to as industry-level discretion. Subsequently, the determinants at the individual level, such as the psychological traits (Wangrow, Schepker, & Barker III, 2015), the cognitive complexity or political acumen (Abrahamson & Hambrick, 1997) of a manager, as well as different organisational determinants, such as age, size, or resource availability, determine the degree to which a manager deviates from the industry tendency. Nevertheless, discretion is not absolute (Hambrick & Finkelstein, 1987), and, although the industry and organisational factors may greatly influence a manager's discretion, as conditioned by the social and cultural context of institutional theory and isomorphic practice, a manager's latitude of action also depends on the resident psychological traits within the manager. To replicate and further advance the seminal work conducted by Abrahamson and Hambrick (1997), this study focuses on industry-level discretion, in order to understand how it affects the homogeneity or heterogeneity in the financial communications of organisations at the industry level of analysis. For the purpose of creating a thorough foundation for the rationale of the research, this study reviews and adopts the six industry level determinants, noted by Hambrick and Finkelstein (1987), which shape industry level discretion.

As discussed above, the six factors are categorised into two groups. The first tripartite have been identified to be industry structure, quasi-legal constraints, and powerful external forces. They affect discretion through the agency of powerful stakeholders (Abrahamson & Hambrick, 1997, p. 515). For industry structure, the nature of competition determines the level of discretion afforded to organisations within such industry. For instance, in oligopolistic industries, "powerful competitors are both aware and responsive to each other's strategic moves" (Abrahamson & Hambrick, 1997, p. 515). As a result, these powerful competitors limit each other's strategic choices, thereby, constraining discretion.

On the other hand, top managers in fragmented industries are less likely to be constrained by oligopolistic norms, followership, and bargains, and are more likely to be afforded the discretion to act on their own, and hence have relatively higher discretion. For quasi-legal constraints, the discretion of managers within an industry category can be constrained by the strength of the control environment and an array of governmental or political forces such as regulators, state legislators, trade unions, or courts. Similarly, powerful stakeholders in the form of powerful buyers and suppliers can limit a manager's latitude of action. Consequently, the more the strength of powerful actors over an industry, the less the latitude of action afforded the executives of the organisations within the industry classification.

The second tripartite of industry-level factors that affect industry-level discretion are product differentiability, market growth, and demand instability (Abrahamson & Hambrick, 1997, p. 515). These factors affect the latitude of action in an industry through the instrumentality of ambiguity in means-ends relations (Hambrick & Finkelstein, 1987). Accordingly, the higher the level of ambiguity in those relations, the greater the likelihood for managers to consider a vast array of means or alternatives to different ends, and the more the likelihood for stakeholders to legitimise a broad variety of attempted means to various ends (Barnard, 1968; Thompson, 1967). The more the conditions in an industry legitimise or cause ambiguity, the more the number of alternatives available to organisational managers in an industry and the higher the discretion. Hence for the purpose of substantiating the effect of isomorphism and discretion, as it relates to organisational behaviour, this study further reviews the effect of industry-level discretion on the attentional homogeneity of organisations in the same industry classification. This dimension of analysis was postulated by Abrahamson and Hambrick, (1997). Hence, this study adds this layer of analysis on how industry-level determinants affect the degree of homogeneity or heterogeneity of the responses of managers in an industry.

Abrahamson and Hambrick, (1997, p. 514) define attentional homogeneity as "the degree of similarity in the foci of attention of top managers across organizations". They argue that the latitude of action afforded managers of organisations differ widely from industry to industry. As emphasised by Hambrick and Finkelstein (1987), some industries are tolerant of managers exploring a wide variety and change in managerial actions, while others constrain the alternatives available for managerial actions. Accordingly, it is logical to argue that if the conferment of options is dependent on the level of discretion, then it must also provide the diversity of alternatives that managers attend to (Nelson, 1991). The central argument of Abrahamson and Hambrick, (1997) is that the degree of latitude of action available in an industry will be negatively associated with the homogeneity of the managerial attention pattern in the industry (p. 514). As a matter of replication, this study is also premised on the same argument. Furthermore, there is strong

empirical support for the proposition that the cognitive measures of top managers in different but similar firms within an industry can be quite similar or homogenous.

In a study of three British industries, Spender (1989) found that "an altogether surprising degree of homogeneity amongst the constructs being applied by managers…in each industry" (cited in Abrahamson & Hambrick, 1997, p. 515), with the commonly held models labelled as 'industry recipes'. In another study, Hambrick (1982) concluded through environmental scanning in three industries that, "a common body of knowledge appears to exist within an industry…which is disseminated through media equally available to and used by executives within the industry" (p. 167). Similarly, Huff (1982, p. 125) argued, in a conceptual paper, that an "industry is defined by shared or interlocking metaphors or world views". In addition, Marcus and Goodman (1986), Goodman (1988), and Newell (1989) have studied the longitudinal transitions of the airline, steel, and banking industries in the United States of America, respectively, and they concluded that in each industry, a well-articulated industry knowledge or logic had been established that the top managers of the organisations in the respective industries had great difficulty to deviate from.

Subsequently, whether it happens across individuals or groups, the research and theory on cognitive homogeneity has been criticised for inadequately conceptualising the cognitive contents that are shared among individuals or groups; what it means for the contents to be shared; and the determinants and implications of such sharing (Abrahamson & Fombrun, 1994; Klimoski & Mohammed, 1994). First, with respect to the content of what is being shared, the dominant proposition among cognitive theorists in the management domain is that top executives are continuously confronted by unclearly defined events and trends (Abrahamson & Hambrick, 1997). Second, on the basis of the meaning attached to sharing an attention pattern, Abrahamson and Hambrick (1997) noted that such sharing can vary by degree (Daniels, Johnson, & De Chernatony, 1994; Porac, Thomas, & Badden-Fuller, 1989; Porac & Thomas, 1990; Reger & Palmer, 1996; Walsh, 1995). Similar to the standpoint of Abrahamson and Hambrick (1997), this study adopts the Whorf-Sapir hypothesis that the use of language in communications can be revealing of the cognitive categories that individuals select, in order to attend to the world around them (Sapir, 1944; Whorf, 1956).

As a result of top executives' lexicons providing shape and revelation of what they attend to, the extent to which the common lexicons are shared among top managers of organisations in an industry reveal the degree of the attentional homogeneity across these managers. Although Hambrick and Finkelstein (1987) did not provide commentary on the potential consequences of industry-level discretion on cognitive homogeneity of top executives within the same industry, Abrahamson and Hambrick (1997, p. 516)

argued that top executives not only have differing levels of discretion over rational decisions they make, they also possess varying amounts of discretion over what they choose to attend to. Thus, industry factors that constrain discretion at the industry level also reduce the variety of alternatives available to managers within an industry, thereby causing greater attentional homogeneity (Abrahamson & Hambrick, 1997).

Specifically, managers are presented with a less multifaceted environment when faced with industry factors that constrain managerial discretion than the industry factors that liberalise managerial discretion. On the one hand, top managers in very low discretion environments are presented with very few environmental facets to attend to (Abrahamson & Hambrick, 1997). As a result, either through conscious or unconscious efforts, top executives tend to constrain their responses to a similar few facets, causing a high degree of attentional homogeneity among them. On the other hand, top managers in very high discretion environments are presented with diverse environmental facets with which to attend to. As emphasised by Reger and Palmer (1996), the boundedly rational nature of top managers in these environments does not enable them to respond to every facet, with the unlikelihood for them to respond to all the same facets. Consequently, attentional homogeneity tends to be low across managers.

To further lend credence to the standpoint of this study, this work considers the effect of the first tripartite industry-level determinants – quasi-legal constraints, industry structure, and powerful external stakeholders – on isomorphic response or attentional homogeneity, as described by Hambrick and Finkelstein (1987). Accordingly, it is understood that top executives tend to direct their responses towards powerful regulators in highly regulated industries, thereby raising the degree of their isomorphic responses. This is usually the case of industries where there is a mandatory 'comply or explain' rule that regulates the operations of some organisations in certain industries.

Conversely, top executives are more likely to consider a wide range of alternatives in less regulated industries, thereby reducing attentional homogeneity. Furthermore, with respect to environments of powerful external forces and industry structure, top executives tend to follow in the steps of a few oligopolists or powerful distributors, suppliers, or customers, thereby causing greater isomorphic responses (Abrahamson & Hambrick, 1997). This is similar to the arguments for the second tripartite of effect of industry level determinants – product differentiability, market growth, and demand instability – on isomorphic response. With respect to product differentiability, a commodity product that is less differentiable in a specific industry influences the direction of the attention of all managers to identical product features and customer expectations, thereby causing a greater level of isomorphic response. On the other hand, top managers are more likely to adopt varied responses to customer taste when there is high product differentiability within an industry, thereby causing diverse patterns of responses.

Similarly, there is the likelihood that top managers will pay attention to diverse opportunities and market-trend indices in industries where there is high market growth and product or demand instability, thereby causing low level of attentional homogeneity or isomorphic response. In summary, this study argues that industry-level discretion affects isomorphic responses across industries, to the extent that it is possible to examine how aggressive or conservative the industries are in their operations, such as in the use of less prudent or conservative accounting practices, among others, which, subsequently, manifests in their financial communication patterns. These financial communication patterns, this study argues, can be revealing of the criminogenic exposure of such industries enabled by the level of discretion resident in those industries, particularly in the high discretion industries.

2.5.2 Measuring Industry-Level Discretion

In the quest to introduce a rating system for discretion across industries, Finkelstein and Hambrick (1990) adopted qualitative metrics to rank high, medium, and low discretion industries. They established computer programming and software companies, chemicals, and natural gas distribution companies as high-, medium-, and low level discretion companies, respectively (Abrahamson & Hambrick, 1997, p. 531). It is noteworthy that using a qualitative measure in any research has the potential to be limiting, owing to the presence of subjectivity in the mind of an observer. Emphasised by Abrahamson and Hambrick (1997), the use of a qualitative approach, although limiting, provides researchers with a reliable measure of discretion in industries that have clarity in their degree of discretion. This approach is reliable where all industry determinants "point to essentially the same conclusion" (p. 518). By contrast, it is difficult to use a qualitative approach to measure discretion in less extreme industries or in industries where the determinants of discretion do not clearly align. In addition, this approach raises the concern on the reliability of approach. As a norm, there is an inherent requirement for qualitative assessments to demand a significant element of interpretation and judgment, owing to the expectation that the qualitative measurement of an industry's latitude of action by one researcher can be entirely different from those of other researchers.

In order to mitigate these potential obstacles, this study adopts the measurement of discretion at the industry-level as determined in Hambrick and Abrahamson (1995). In their work, they measured industry-level discretion by obtaining the ratings of scholars in strategy and organisation theory, which was latter corroborated with the ratings of security analysts in a major investment bank (Abrahamson & Hambrick (1997). The comprehensive procedure towards providing evidences of the validity and reliability of their approach are presented in Hambrick and Abrahamson (1995). In the quest to gain validity for this qualitative approach to measuring discretion, they formed an academic panel that consisted of every author of articles in the '*Academy of Management Journal', 'Academy of Management Review',*

'Administrative Science Quarterly', 'Management Science', and 'Organisation Science', published between 1988 and 1991, which cited the seminal work of Hambrick and Finkelstein (1987).

Accordingly, this approach ensured the inclusion of only panel members that were familiar with the concept of discretion. Although 14 of the 15 academic experts submitted usable responses, however, they found a quite strong inter-rater reliability in the responses of the panel members. By adopting a 7-point Likert scale – with 1 = extremely little executive discretion; 4 = medium/moderate executive discretion; and 7 = extremely high executive discretion (Abrahamson & Hambrick, 1997, p. 518) –, in conjunction with Shrout and Fleiss's (1979) analytic guide, Hambrick and Abrahamson (1995) found the overall interclass correlation coefficient and reliability of industry means to be 0.57 and 0.95, respectively. The latter is well above the acceptable range of 0.70 to 0.80.

Returning back to their methodology, Hambrick and Abrahamson (1995) noted that due to the advantages of greater familiarity with numerous industries by the academics, and their conceptual understanding of discretion, there was a need to assess their accuracy as judges of the industries they were required to evaluate. Accordingly, with the need to corroborate their ratings, Hambrick and Abrahamson (1995) obtained independent ratings from an additional group of experts – security analysts. Subsequently, Abrahamson and Hambrick (1997) corroborated this measurement scale by introducing the ratings of expert security analysts "who specialized in the 14 industries in a major investment bank" (p. 518). Similar to the 7-point Likert scale used in Hambrick and Abrahamson (1995), they found a high correlation (Spearman r = 0.83) between the mean academic ratings and those of the analysts in the industries. To further establish construct validity Abrahamson and Hambrick (1997) tested for the correlation between the ratings and objective determinants of industry features emphasised by Hambrick and Finkelstein (1987) as determinants of discretion. They found the various industry features as adequate explanation for the large proportion of variance in the ratings of the academic panels (R^2 = 0.49) and the ratings of expert security analysts (R^2 = 0.48).

The results from the panel of academics were strongly corroborated by a similar, although very limited, analysis using the data from the security analysts. In sum, the results (shown in Appendix 9) from the ratings by security analysts contain coefficients that are strikingly similar with those obtained from the models derived from the academic panel. In addition, the correlations between the ratings of the industry analysts and the objective characteristics of an industry are highly similar to those based on the data obtained from the academic panel (Hambrick and Abrahamson, 1995, p. 1435). Therefore, there is sufficient evidence from the two independent groups of security analysts and academics to posit that they

both factored, to a large extent, the same industry characteristics by assigning them similar weights and in arriving at an overall evaluation of industry discretion.

More importantly, the predictive validity of the panel ratings is enhanced by the fact that they did not receive any industry data prior to receiving the questionnaire issued to them. This not only provided the basis for unbiased assessment of industry discretion, "but also sheds light on the ability of such assessors to accurately characterize disparate industries on dimensions of conceptual importance" (Hambrick & Abrahamson, 1995, p. 1438). In view of this, the consistency between the ratings of these two groups of evaluators gives further assurance of convergent validity (Hambrick & Abrahamson, 1995). Although it is arguable that this measurement approach was established over two decades ago. However, it was replicated in Hambrick and Quigley (2014) and, McClelland, Liang, and Barker III (2010) to further lend construct validity and reliability to the qualitative assessment of discretion. The formula for measuring industry discretion is given as:

Industry discretion = 4.344 + (0.1209 × R&D Intensity) + (0.1519 × Advertising Intensity) – (0.004 × Capital Intensity) + (0.0596 × Sales Growth Rate).

(See McClelland, Liang, and Barker III 2010, p. 1273).

Table 2.1: Industries and their Discretion Scores

US SIC Code	Industry Name	Discretion Score
1311	Crude Petroleum and Natural Gas	2.33
1040	Gold and Silver Ores	2.42
4213	Trucking Local	2.73
6331	Fire Marine and Casualty Insurance	2.92
4512	Certified Air Transportation	3.23
6211	Security Brokers and Dealers	4.27
3825	Instruments to Measure Electricity	4.33
3674	Semiconductors and Related Devices	4.62
3663	Radio and Television Communication Equipment	5.17
3841	Surgical and Medical Instruments	5.41
2834	Pharmaceutical Preparations	5.54
3570	Electronic Computing Equipment	5.77
7812	Motion Picture Production	6.08
7372	Computer Programming and Software	6.38

Source: Abrahamson and Hambrick (1997, p. 531).

Building on the extant literature reviewed on institutional theory and how the logic in institutions differ one from another, the next line of review focuses on the interplay between corporate leadership and corporate communications. Specifically, the next line of review of literature focuses on how corporate managers use language to attend to their institutional environment. Subsequently, it follows with the review of the potential for impression management tactics to be included in their corporate communications. Accordingly, the next section focuses on the link between corporate leadership and corporate communications.

2.6 Corporate Leadership and Corporate Communications

The study of leadership and corporate communications has had significant impact in understanding how the leadership of organisations deploy various communications and or use linguistic resources in response to environmental expectations. Margaret Mead the renowned cultural anthropologist, is purported to have said, "What people say, what people do, and what they say they do are entirely different things" (as attributed in Bligh & Kohles, 2014, p. 142). Similarly, what leaders say, what leaders do, and what leaders say they do, provide rich insights into individual, organisational, and group issues with respect to how they deploy their linguistic resources in response to external stimuli. As pointed out by Jameson (2009), the 2008-2009 global economic downturn, corporate scandals, and financial disasters are often more communication problems than regulatory, ethical or technical problems.

Similarly, Bligh and Kohles (2014) call for more focus of research efforts on the understanding of leadership communications across different contexts spanning different historical time periods. They posit that such research focus has the capacity to enhance the understanding of communication processes that underlie organisational outcomes, which are not popularly assessed through the lens of leader communications. As a response to that call, this study aims to create an understanding of the communications of the CEOs of companies in different industry and economic contexts and how they use language to express their industry and economic circumstances spanning different historical time periods, on the basis of the discretion afforded to them.

Traditionally, language has been attributed to be a critical foundation for the leadership process, and scholars have contended that communication processes and discourse provide the fundamental foundation for the relationship between business leaders and their employees (Barge, Downs, & Johnson, 1989; Conger, 1991; Fairhurst, 1993; Fairhurst & Sarr, 1996; Insch, Moore, & Murphy, 1997; Komaki & Citera, 1990). Smircich and Morgan (1982) posit that leadership is a socially constructed, interactional phenomenon through which the reality of other individuals is framed, defined or influenced by certain individuals. Accordingly, such framing can be examined through verbal and textual language, thereby

providing resourceful opportunities for scholars to examine leadership in contextually based, yet often unobtrusive ways (Bligh & Kohles, 2014, p. 144).

It is noteworthy that within the literature on communication, the interaction analysis of organisational leaders creates extensive pathways into examining time and context, including monitoring leaders and archiving their interactions, measuring leader interactions over a period of time, and examining leader talk, language, content, and discourse (Barge et al., 1989; Barge & Schlueter, 1991; Bligh & Kohles, 2014, p. 142; Fairhurst, 2007; Fairhurst & Chandler, 1989; Fairhurst, Rogers, & Sarr, 1987; Fairhurst & Sarr, 1996; Komaki & Citera, 1990), nevertheless, the full integration of communication literature into leadership and management literatures is yet to be conducted (Fairhurst, 2007).

Some of the insights on leadership communications focus on advancing the knowledge of what effective leaders say, how they say it, the frequency of what they say, what they fail to say, as well as what destructive or manipulative leaders say, and how they say it (Bligh & Kohles, 2014). Bligh and Kohles, (2014) also argue that new insights into the process of leadership can be obtained through the analysis of business leaders' communications, thereby providing scholars with the basis for examining what constitutes influence, without constraining the definition of leaders by their roles in organisations- at a single point in time or through a single perspective.

Subsequently, studies have explored the choice of words and phrases to make inferences about the motives or ideas of a leader. Specifically, linguistic markers have been used to assess the thinking styles and emotional states of individuals (Zullow, Oettingen, Peterson, & Seligman, 1988), as well as the transition in their leadership style when faced with a defining or precipitating event, such as a crisis (Bligh, Kohles, & Meindl, 2004a). Consequently, a leader's selection of words can be particularly revealing of their motives, intentions, and underlying assumptions, and can have significant effects on organisational outcomes such as credit ratings, public approval ratings, and financial market reputation (Bligh & Hess, 2007).

In view of this, it is imperative to avoid instant inferences on leaders' communications that are one-offs. Therefore, inferences should be drawn from communications that span across a wide scope of time, and of how leaders respond to, change, develop, or vary their communications throughout their tenures or careers (Bligh & Kohles, 2014). Hunter, Bedell-Avers, and Mumford (2007, p. 440) note that although singular events could characterise the reaction of organisation leaders, in itself, "leadership is rarely, if ever, the result of a sole action or behavior", rather, organisational leadership is a continuous process, an array of activities and exchanges that come into play under varied circumstances and over periods of time (Day, 2000). Unfortunately, in the process of gathering information pertaining to leadership

processes, what is often lost or ignored are the cognitive and communication-oriented activities that inform the evolution of leadership communication across contexts and time (Hunter et al., 2007).

Similarly, the significant role of situational changes is often disregarded in favour of the behavioural consistencies in leaders' communication across time and context (Bligh & Kohles, 2014). Hence, it is imperative to explore leaders' communication in a systematic, longitudinal, and comparative way, so as to avoid hiding, disguising, or mitigating the richness and contextual aspects of the conditions surrounding leaders' communications. For instance, Bligh et al. (2004a) explored the impression that opportunity for charismatic leadership is enhanced in times of crisis, as they often produce situations that increase the levels of anxiety, uncertainty, and psychological distress in the stakeholders of an organisation. In their study of the rhetorical content of the speech of President George W. Bush in response to the 9/11 terrorist attacks, they found that the crisis that ensued did affect the communication pattern of the President to the Americans. Also, their findings suggest that the President's rhetoric became increasingly charismatic subsequent to the attacks, while incorporating higher levels of aggression in speech towards the perpetrators of the crime and aspects of endearment towards the American public.

In a similar vein, Seyranian and Bligh (2008) examined the theory of how charismatic leaders deploy communications towards introducing social change aimed at influencing the social values of their followers in a three-phase sequence (Fiol, Harris, & House, 1999). By adopting the sequence set postulated by Fiol et al. (1999) on a sample of six speeches from each of the 20th-century US Presidents, they found that the charismatic nature of these US Presidents seemed to be patterned along a three-phase model of social change, where they placed emphasis on their similar identity with their followers while they used negation in the second phase. In summary, across all phases, the sample US Presidents increasingly used active and tangible language. Also, throughout their presidential tenures, the charismatic US Presidents deployed more rhetoric that portrayed concrete imagery and focused more on inclusion, with reduced language connoting abstract conceptual thoughts and virtues as compared to non-charismatic presidents (Bligh & Kohles, 2014, p. 153). This approach facilitates the comparisons across individual leaders that assume the same office or to assess the differences among leaders in their utilisation of language in both similar and unique ways.

Similar to cross-leader comparisons is the importance of conducting cross-cultural comparisons across leaders' communications. In prior studies, scholars have engaged computer-aided text analysis algorithms to assess the degree to which extant theory or empirical findings establish inferences across cultural, historical, and or political contexts (Hart, 1984, 1987; Hart & Childers, 2004; Hart & Sawyer, 2003; Hart, Jarvis, Jennings, & Smith-Howell, 2004). Similarly, Bligh and Robinson (2010) assessed the

rhetoric of Mahatma Gandhi in comparison with some presidential figures and social movement leaders to examine potential consistencies in charismatic leadership, and whether these emerged across cultural contexts and historical time periods. They also discovered that across all three of their leader samples, the intolerability by those leaders of the current situation were articulated using charismatic themes while appealing to the values and moral justifications. Furthermore, the speeches of Gandhi portrayed comparable levels of language that placed emphasis on the similarity of his beliefs with those of his followers. It also emphasised his followers' worth, the links between the past and future, and abstract, intangible themes when compared with those of other leaders, thereby providing the suggestion that some unique elements of a leader's persuasive communication may be particularly revealing of cultural and historical differences (Bligh & Kohles, 2014).

Furthermore, in the prior study of Bligh and Hess (2007), they discovered that in times of adverse economic situations, Alan Greenspan, the former Chairman of US Federal Reserve communicated using words that signified less certainty with reduced amount of active language. However, in his communications during the defining period, there was an increase in his use of present tense, thereby indicating more focus on current concerns. On the other hand, during times of economic prosperity, Alan Greenspan's choice of words indicated a stronger sense of certainty. Bligh and Hess (2007) inferred that such transition in language patterns likely assisted the public in placing their economic situations in context, which could also signal the effectiveness of the leadership of Greenspan.

Accordingly, these forms of approach to leaders' communications allow the direct comparison of the linguistic style in a leader's communication in a tripartite way – before, during and after a precipitating event, or throughout the lifetime or tenure of a leader. Similarly, within-leader studies enhance the exploration of the potential influence of time and situational changes within single or multiple leaders (Bligh & Kohles, 2014). In view of this, it is important to devise a comparative analysis of the different leaders within an organisation (or among organisations within the same industry category) having the same context, with specific emphasis on how each leader responds to changes and expectations in their institutional or external environment, with the potential for the management of impression that they conform to those changes and expectations. Accordingly, the next section focuses on the review of extant literature on impression management in the communications of individuals and teams, with specific emphasis on how they respond to changes and expectations in their institutional or external environment.

2.7 Impression Management – The Psychology of Individuals and Teams

Impression management is the process by which individuals or groups attempt to create, maintain, protect, or otherwise control the perception people have towards them (Chng, Rodgers, Shih, & Song,

2015; Leary & Kowalski, 1990; Rosenfeld, Giacalone, & Riordan, 1995). The various theories on impression management build on Goffman's (1959) foundational research, *The Presentation of Self in Everyday Life.* The core assumption in the literature on the management of impression and presentation of self is that individuals, including groups of people, have an inherent interest in controlling how they are being perceived and evaluated by others, and that under specific circumstances, they are motivated to manage such impressions (Goffman, 1959; Leary & Kowalski, 1990; Schlenker, 1980). Accordingly, these impressions are structured to maximise potential benefits or to minimise potential costs (Leary & Kowalski, 1990; Schlenker, 1980). The arising benefits could be obtaining deceptive advantage over other people or obscuring information from those that have the legal rights to such information, while the minimisation of potential costs, in this context, could be to avoid the embarrassment and potential repercussion of attaining less than predicted expectations.

Research on the management of impression gradually accelerated following the ground-breaking study conducted by Goffman in 1959. Notable studies have been conducted in the fields of sociology, social psychology, organisational behaviour, management, political science, and criminology. Since Goffman, impression management has been defined negatively by some authors, as a form of interpersonal manipulation which takes place in a very confined setting or related to a limited set of behaviours. This assertion supports the common misconception that impression management is a strategy used by individuals for the purpose of obtaining undue advantage over others or primarily for purposes of deception. Historically, impression management used to be viewed as a bad, self-interest-oriented manipulation of others for one's own purposes. Nevertheless, self-interest is only a component part of many reasons for impression management, as it can be used both to help others and sometimes to harm them (Rosenfeld, Giacalone, & Riordan, 1995).

Contrarily, contemporary perspectives towards impression management research view the phenomenon as very broad and common, and as a core part of all interpersonal social interactions (Rosenfeld, Giacalone, & Riordan, 1994). Although the term "impression management" connotes a phenomenon which is disturbingly Machiavellian, nevertheless, it is a known assertion that the manner in which individuals present themselves influences the course of their social interactions. As Weatherly and Beach (1994, p. 416) note that "our motives are not necessarily dark and manipulative…Although impression management surely can be used for unprincipled ends, more frequently it serves fairly benign aims".

Subsequently, the positive perspective of impression management has been labelled as the expansive view (Schlenker & Weigold, 1992), while referring to the more limited, nefarious, Machiavellian perspective, as the restrictive view of impression management (Rosenfeld, Giacalone, & Riordan, 1995,

p. 6). Accordingly, it is the broader, more encompassing, humane and expansive view of impression management that proposes that individuals engage all forms of impression-imposing strategies to help them achieve their objectives – whether premeditated or not -, which are conducted both individually or collectively as a group. In view of this, impression management could be imposed consciously or unconsciously in an automatic or habitual way. While it is arguable that the management of impression is done for the purpose of protecting self-image, it could also be used for the purpose of pleasing significant audiences (Rosenfeld, Giacalone, & Riordan, 1995).

However, it is arguable that what seems pleasing to the audience is not entirely beneficial to them in real terms. It is possible to manage the impression of a loss-making corporate entity as being profitable for the purpose of avoiding a negative reaction from the market, with the view of maintaining a favourable share price. That being said, it becomes pleasing – in the short term - for the stakeholders to receive positive news from their investments. Nevertheless, in the long-run, it may not serve them any benefit for the value of their investments may crash, with potential for the liquidation of their company, at the revelation of any fraudulent reporting or significant financial misstatements. Furthermore, the expansive view towards impression management also posits that individuals engage impression management strategies not just to control the perception of others, but also to measure what they think about themselves (Rosenfeld, Giacalone, & Riordan, 1995). Individuals could thereby strive to persuade the external audience of their competence as much as they also become persuaded by their own internal audience.

A concept emphasised by Erving Goffman, impression management involves attempts to create meaning and purpose for instances of social interactions, which provides structure of actions and preconceived or expected reactions from others. It connotes a form of mutual ritual that facilitates the smoothening of social interactions with the underlying objective of avoiding embarrassment, and the need to respond positively to pressures imposed on them from the external environment. Individuals are stage performers with the task of playing different roles in different circumstances for the purpose of constructing social identities. These identities are communicated through verbal and nonverbal behaviours which can be consciously controlled while others such as eye contact and posture are often involuntarily expressed (Rosenfeld, Giacalone, & Riordan, 1995). The notion is that impression management words become more effective when backed up with impression management deeds. Of particular importance to this study is the aspect of literature than informs the verbal cues of impression management in accounting narratives.

2.8 Accounting Narratives and Impression Management

With the relevance of the phenomenon in different aspects of communication, this section focuses on the placement of impression management tactics in financial communications. Historically, the literature on impression management gains its foundation from social psychology. It has its influence in all areas of human endeavour, it is therefore no surprise that the phenomenon has been applied in the field of Accounting (Brennan & Merkl-Davies, 2013; Chng et al. 2015). Most notable of the adaptation of the insights on impression management is in the context of accounting communication. The rationale behind the use of impression management strategies is to enable the formation of an impression by organisations with the motive of appealing to the attention of their target audiences (Gioia, Schultz, & Corley, 2000; Goffman, 1959; Schlenker, 1980), which include but are not limited to shareholders, stakeholders, the general public, and the media (Brennan & Merkl-Davies, 2013). In the process of constructing a desirable impression image by an organisation or through its representatives, the outcome could be either success or failure. Although the success or failure of impression management strategies have their individual impacts, nevertheless, it is its success that has dominated the literature on impression management.

With respect to accounting narratives, the successful application of impression management strategies can undermine the veracity and quality of information included in financial reports, with the potential of influencing the economic decisions of its stakeholders which may result in capital misallocations (Brennan & Merkl-Davies, 2013, p. 4). Furthermore, impression management tends to induce wider social and political consequences, with individuals and organisations seeking for ingratiation and unwarranted support from non-financial stakeholders and the external environment (Brennan & Merkl-Davies, 2013; Rosenfeld, Giacalone, & Riordan, 1995). As a result, the external environment becomes the puppet that individuals and organisations manipulate as they seek to promote the image of self to present in different circumstances.

Traditionally, financial communications are both quantitative and qualitative in nature, however, they are predominantly quantitative. Accordingly, the qualitative aspects are published through written narratives known as ‘soft’ or unquantified information. In addition, these qualitative aspects are included in annual reports, accounting textbooks, official disclosures by accounting bodies, and legal verdicts pertaining to accounting issues (Jones & Shoemaker, 1994). Although it has been established through research that quantitative information in accounting disclosures are the subject of manipulation by management representatives (Beneish 1997,1999; Beneish, Lee, & Nichols, 2013), nonetheless, the qualitative information included are also ingeniously targeted by top management to hide deception (Purda & Skillicorn, 2015).

Based on the standpoint that impression management in accounting narratives may impact the veracity of accounting information, it is imperative for the users of corporate reports to understand the tenets and the placement of impression management in accounting narratives. This is to assist and or call forth the investigative instincts of the users in detecting potential deception particular to accounting narratives (Brennan & Merkl-Davies, 2013). Accordingly, the prospect of stakeholders' capital misallocations is minimised as they become more aware of the impression management techniques of management representatives. In the context of this study, and similar to the approach in the study by Brennan and Merkl-Davies (2013), impression management is reviewed with reference to four different perspectives: the economic, psychological, sociological, and critical. Furthermore, these perspectives conceptualise the management of impression in terms of reporting bias, self-serving bias, symbolic management, and ideological bias.

In addition, seven communication techniques used in the management of impression in corporate narratives are reviewed. In the context of accounting narratives, the impression conveyed by the top management of a company to their stakeholders may either correspond to an ostensible reality, the amplification of desirable aspects of their company, or in concealing less desirable aspects, with the view of manipulating the perceptions of their target audiences (Gioia, Schultz, & Corley, 2000). In view of this, and for the purpose of understanding attempts by top managers in the management of the perceptions of their audiences, the concept of impression management is applied in the context of corporate financial communications, specifically in the assessment of financial performance (Clatworthy & Jones, 2001, 2003, 2006; Courtis, 2004a; Rutherford, 2003).

Although impression management in social psychology is applied to individuals, the phenomenon is adopted at an organisational or industry level in the context of accounting narratives (Brennan & Merkl-Davies, 2013). Accordingly, organisational audiences with respect to the business and accounting contexts are narrowly defined to consist of shareholders and financial intermediaries, or more broadly as stakeholders and the external environment. A narrow perspective towards conceptualising impression management focuses on various attempts by top management towards the manipulation of the perception of shareholders in the course of measuring the financial performance of their organisation (Clatworthy & Jones, 2001, 2003, 2006; Courtis, 2004a, Rutherford, 2003). In contrast, a broader systems-oriented theory approach adopts a different paradigm towards analysing managerial impression management attempts in the context of social and environmental performance, with a wider view of the impact of impression management on the stakeholder community, as opposed to the narrow view of the influence of impression management on company shareholders alone. It is this broader level of analysis that informs the position that the leaders of corporate organisations not only seek to manage the

perceptions of their company's shareholders, but also for purposes that ensure the legitimacy of their operations and continuous recognition in an institutional environment (Breton & Côté, 2006; Hooghiemstra, 2000; Linsley & Kajuter, 2008).

It is noteworthy that the understanding of the attempts by organisations in seeking legitimacy and appealing to the approval of the stakeholders in their external environment aligns to the institutional theory perspective adopted for this study. It reviews the aspects of impression management that informs the understanding of how organisations seek to maintain legitimacy in the context of the institution they belong within, as well as align to the logic that guides their institutions. By adopting the wider systems-oriented theory, this study moves from the narrow shareholder perspective to a wider stakeholder perspective in the course of understanding the rationale for impression management by members of top management, through the leadership of the Chief Executive Officer. Accordingly, in the context of this study, the stakeholders of an organisation are conceived as the external or institutional environment which the top management will seek all forms of impression management tactics in an attempt to manipulate their perceptions. In sum, this entails the management of the reputation, image, and legitimacy of an organisation in an institutional environment.

2.9 Impression Management and Organisational Reputation, Image, and Legitimacy

Previous studies have highlighted reasons for the use of impression management strategies (Breton & Côté, 2006; Hooghiemstra, 2000; Linsley & Kajuter, 2008). Some of its very frequent use is in an effort to restore the reputation, image, or legitimacy of an organisation when faced with crisis or potential significant change, especially during adverse financial performance (Abrahamson & Park, 1994; Courtis, 2004a), organisational decline (Chng et al., 2015), corporate scandals (Linsley & Kajuter, 2008), expectation of positive reaction to annual report narratives from the capital market (Yekini, Wisniewski, & Millo, 2016), environmental disasters (Hooghiemstra, 2000), and major corporate reorganisation (Arndt & Bigelow, 2000; Ogden & Clark, 2005). Most often than not, impression management is used to seek acceptance from organisational audiences concerning the exceptional or one-off nature of the circumstances surrounding a company's negative financial performance, for the purpose of viewing a financial scandal as an isolated event, and also to convince the audience of the validity, legitimacy or necessity of reorganisation (Merkl-Davies & Koller, 2012).

Furthermore, the need for organisations to establish, maintain, and restore image, reputation, and legitimacy play important roles in understanding both the perceptions of the organisational audiences and those of the leaders of the organisations (Brennan & Merkl-Davies, 2013, p. 7; Deephouse & Carter, 2005, p. 329). According to Highhouse, Brooks, and Gregarus (2009), reputation connotes a temporally

stable evaluative judgment of organisations as a whole in an institutional context, with the view of maintaining such reputation in the midst of the competitors within an industry classification (Deephouse & Carter, 2005, p. 331). On the other hand, the concept of image addresses the dynamic perception of a specific area of distinction such as the image of an organisation in capital markets, including investment or corporate social responsibility image (Brennan & Merkl-Davies, 2013, p. 7; Highhouse et al., 2009, p. 1489)

Lastly, legitimacy connotes a shared judgement and agreed-upon values used in assessing the conformity of organisational behaviour and the normative appropriateness of such behaviours to the logic guiding an institution (Highhouse et al., 2009, p. 1487). While reputation and image focus on the evaluation of organisations, legitimacy is concerned with the acceptability of organisations with respect to the norms and rules set in an institution (Brennan & Merkl-Davies, 2013; Deephouse & Suchman, 2008). Hence, impression management entails the construction of an impression with respect to the quality or normative appropriateness of organisational structures, processes, practices, or outcomes (Brennan & Merkl-Davies, 2013, p. 7). Overall, the three concepts have been coined in Brennan and Merkl-Davies (2013) as organisational reputation, organisational image, and organisation legitimacy. To provide an overview of these three concepts, Table 2.2 below shows the key aspects, and definitions of the concepts. Subsequently, it follows with the review of the four perspectives on impression management.

Table 2.2: Organisational reputation, image and legitimacy

Concepts	***Key aspects***	***Time dimension***
Organisational reputation	Whole organisation Quality Evaluation	Short-term Stable
Organisational image	Aspect of the organisation (e.g. investment image) Quality Evaluation	Short-term Dynamic
Organisational legitimacy	Whole organisation or industry Social norms and rules Appropriateness	Long-term Stable

Adapted from Brennan and Merkl-Davies (2013, p. 8)

2.10 The Four Perspectives on Impression Management

In prior study by Brennan and Merkl-Davies (2013), they identified the differentiation of four broad perspectives on impression management that dominate accounting research which are: economic, psychological, sociological, and critical. Table 2.3 provides an overview of the differences between the four perspectives on impression management which are further conceptualised along two dimensions (adapted from Brennan & Merkl-Davies, 2013, p. 10). These dimensions are with respect to the underlying theories, assumptions about the factors that motivate the use of impression management by top executives, the underlying concept of impression management, the focus of analysis, and the consequences of impression management in the business world (Brennan & Merkl-Davies, 2013, p. 9). On the one hand, the economic and social psychological perspectives of impression management focus on the use of impression management by top executives for the purpose of protecting an investment image and to manage the perceptions of their shareholders and financial stakeholders, on matters concerning the financial performance of an organisation (Brennan & Merkel-Davies, 2013). Consequently, the successful implementation of impression management techniques have potential for influencing short-term capital misallocations (Merkl-Davies & Brennan, 2007).

Table 2.3: Differences between the four perspectives across two dimensions

Perspectives	Underlying theories	Motivation for impression management
Economic	Agency theory	Maximise compensation
Psychological	Attribution theory	Win social and material rewards and avoid sanctions
Sociological	Stakeholder theory Legitimacy theory Institutional theory	Attract social and material resources and support
Critical	Political Economy Critical theories	Gain and maintain power

Adapted from Brennan and Merkl-Davies (2013, p. 10)

On the other hand, the sociological perspective on impression management focuses on the use of impression management for the purpose of advancing corporate social and environmental responsibility, image, and legitimacy (Brennan & Merkl-Davies, 2013). This perspective is concerned with the use of impression management for the purpose of influencing the perceptions of organisational audiences on the measurement of an organisation's social and environmental performance, and more importantly, the compliance of organisations to the logic, social norms and rules that guide their institution. Consequently,

as organisational audiences, through impression management, become convinced by the compliance of their organisation to institutional norms, it results in the accordance of legitimacy to the operations and deeds of top executives in the presence of stakeholders and the entire institutional environment (Brennan & Merkl-Davies, 2013). Notably, this perspective is relevant to the approach of this study on the need to evaluate the corporate financial communications of an individual organisation in the context of the institution it is classified, with the view of ascertaining the legitimacy of such communications in an institutional environment.

Lastly, the critical perspective on impression management is concerned with attempts by top executives in obtaining power for the purpose of influencing organisational audiences' perceptions of corporate influence and control (Brennan & Merkl-Davies, 2013). If successful, such impression management motive results in hegemony which, in the context of corporate financial reporting entails persuading organisational audiences to support the positions of top executives on organisational outcomes out of their own free will (Brennan & Merkl-Davies, 2013). Accordingly, the perspective adopted in the understanding of impression management impacts the explanation for the motives underlying the phenomenon and the way it is conceptualised with respect to reporting bias, self-serving-bias, symbolic management/decoupling, or ideological bias (Brennan & Merkl-Davies, 2013, p. 10). Although the economic and psychological perspectives of impression management dominate accounting research (Brennan & Merkl-Davies, 2013), the sociological perspective as adopted in this study advances the evaluation of managerial and/or organisational impression management in the context of institutions. Notably, Brennan and Merkl-Davies (2013) conclude that of the four perspectives on impression management, the sociological and critical perspectives are under-researched. As a response, this study focuses on assessing the sociological perspective of impression management as a vital underlying factor for the management of impression by top executives, with the view of maintaining legitimacy in an institutional environment. Accordingly, the next sections focus on the detailed review of the four perspectives on impression management.

2.10.1 The Economic Perspective on Impression Management

Historically, most prior studies on accounting narratives and impression management focused on agency theory assumptions (Brennan & Merkl-Davies, 2013). According to Healy and Wahlen (1999), it is assumed that managers exercise judgement so as to "alter financial reports to … mislead some stakeholders about the underlying economic performance of the company" (p. 368). Hence, impression management is conceived as opportunistic managerial attempts resulting from asymmetries in information between top executives and investors (Brennan & Merkl-Davies, 2013). By focusing on the prevailing economic circumstances, either favourable or unfavourable, and the placement of tone in

corporate financial communications, Brennan and Merkl-Davies (2013) emphasise that the top management of an organisation's underlying motive for impression management will be to either underscore favourable organisational performances or to obfuscate unfavourable organisational performances.

As unfavourable organisational performances have the potential to create conflicts between top executives and their shareholders, top management are more likely to devise means of manipulating shareholders' perceptions of such performances and their future prospects, with the view of diverting attention from financial distress (Tennyson, Ingram, & Dugan, 1990). The corporate financial communication channels become potent vehicles for conveying a desirable impression, with the aim of presenting a self-interested view of corporate performance (Abrahamson & Park, 1994; Brennan & Merkl-Davies, 2013; Clatworthy & Jones, 2006, p. 493; Staw, McKechnie, & Puffer, 1983). Consequently, top executives introduce reporting bias into corporate narratives for diverse purposes including attracting increased compensation, specifically through managerial stock options (Rutherford, 2003; Courtis, 2004a). By definition, reporting bias involves "selecting the information to display and presenting that information in a manner that is intended to distort readers' perceptions of corporate achievements" (Godfrey, Mather, & Ramsey, 2003, p. 96). This is manifest in the manipulation of the presentation and disclosure of both verbal and numerical information. On the one hand, the manipulation of verbal information in corporate narratives could take the form of reading ease manipulation, thematic manipulation, rhetorical manipulation, visual and structural manipulation, and the attribution of performance. On the other hand, the manipulation of numerical information in corporate narratives could take the form of performance comparisons, visual and structural manipulation, as well as earnings management (Brennan & Merkl-Davies, 2013, p. 12).

2.10.2 The Psychological Perspective of Impression Management

For the psychological aspects of impression management, prior studies based on this perspective replace the economic view of top executives, who use the corporate reporting function solely on cost-benefit analysis, with a social psychological view which incorporates "social relations inherent in the decision context into consideration" (Brennan & Merkl-Davies, 2013, p. 12). Under this perspective, the behaviour of top management is considered as embedded in and a function of the relationships between top executives and their organisational audiences, hence, inherently social in character (Brennan & Merkl-Davies, 2013). According to Allport (1954), impression management is a product of "the actual, imagined, and implied presence" of the audiences of an organisation that demand the accountability of managers. To fulfil this responsibility, corporate reports serve as the mechanism for meeting accountability obligations, with the aim of using them to address the concerns of the external environment. In view of

this, managers use the conditions of accountability to manage the impression of their audiences in anticipation of an evaluation of their actions and decisions, primarily, by shareholders (Brennan & Merkl-Davies, 2013).

Accordingly, the psychological perspective of impression management informs top management's use of self-serving bias in anticipation of the assessment and appraisal of their performance by shareholders and other stakeholders, with the aim of obtaining rewards and the avoidance of sanctions (Frink & Ferris, 1998). The concept of self-serving bias is explained through the lens of attribution theory which focuses on people's explanations of events (Brennan & Merkl-Davies, 2013). The attribution of actions and events by an individual becomes biased as they take credit for success and deny responsibility for failure (Brennan & Merkl-Davies, 2013; Knee & Zuckerman, 1996). In the context of corporate financial communications, self-serving bias involves the attribution of favourable financial performance to internal factors such as managerial acumen, and shifting the blame for unfavourable financial performance to external circumstances, with the view of influencing the perceptions of investors on those performances (Aerts, 1994, 2001; Aerts & Cheng, 2011; Clatworthy & Jones, 2003; Hooghiemstra, 2008).

2.10.3 The Sociological Perspective of Impression Management

As the term suggests, this perspective focuses on the underlying motive for impression management owing to the structural constraints imposed on organisations either by different stakeholders or by the external environment at large (Brennan & Merkl-Davies, 2013). From this perspective, impression management is conceived either as a response to the expectations and concerns of different stakeholder groups or as a response to pressure from the external environment relating to a precipitating event or controversial issue, or as arising from inconsistencies between organisational and institutional norms and values (Brennan & Merkl-Davies, 2013). In order to mitigate any form of inconsistencies between organisations and their institutions, top executives strive to gain or restore the legitimacy of their organisations by seemingly aligning the norms and values of their organisations with those shared as common logic, norms, and values regulating their institution. This aligns with the theory of organisations and institutions in that, to ensure the legitimacy of operations and continuous survival, organisations regulated by similar logic in an institution often decouple themselves from their individual organisational values with the view of aligning to the common values of their defining institution (Thornton & Ocasio, 2013).

Although it is not always stated in explicit terms, legitimacy is a social construct in the sense that it refers to "a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed systems of norms, values, beliefs, and definitions" (Brennan

& Merkl-Davies, 2013; Suchman, 1995, p. 574). Traditionally, the principle of legitimacy is conceptualised from either a strategic or an institutional perspective (Brennan & Merkl-Davies, 2013). By drawing insights from agency theory, the strategic view regards legitimacy as an operational resource carefully crafted and employed for the purpose of attaining organisational goals (Brennan & Merkl-Davies, 2013; Suchman, 1995). From a structure point of view, the institutional perspective considers legitimacy as "the collective awareness and recognition of an organization's practices as acceptable, appropriate and desirable" (Brennan & Merkl-Davies, 2013, p. 24; Suchman, 1995). Similarly, from the institutional perspective, Breton and Côté (2006) note that legitimacy "resides in people's minds" (p. 512), and it becomes ratified by the organisational audiences once they adjudge organisational practices as congruent with institutional rules, norms, and values.

Furthermore, prior studies on impression management have identified a variety of communication choices deployed by top management for the purpose of establishing or re-establishing legitimacy. These communication choices can be grouped in light of the underlying concept of legitimacy which can be either strategic or institutional (Brennan & Merkl-Davies, 2013). Ashforth and Gibbs (1990) note that from the strategic point of view, impression management is conceptualised as symbolic management. Specifically, symbolic management involves the selection of language choices which have the potential for making organisations appear to respond to the concerns of stakeholders or appear to align to the norms and expectations of the external environment (Brennan & Merkl-Davies, 2013). It follows that the top executives of corporate organisations facing major threats on their legitimacy engage in symbolic management by creating a separation between their organisations and negative or unfavourable events (Brennan & Merkl-Davies, 2013), such as downward pressure on the global economy and the occurrence of financial fraud in their organisation.

As the sociological perspective on impression management stems from institutional theory, impression management is seen as decoupling from the norms and values of individual organisations with the aim of coupling with the common values of an institution (DiMaggio & Powell, 1983). The decoupling entails rendering the structures and processes within organisations so they are conceived as conforming to social and institutional norms and rules (Brennan & Merkl-Davies, 2013). Consequently, decoupling manifests through the espousal of socially acceptable goals, redefining means as ends and ceremonial conformity (Linsley & Kajuter, 2008). Specifically, one of the ways of redefining means as ends could entail the justification of the upward valuation of non-current assets on the basis of the adoption of a new accounting policy or introduction of a new accounting standard. In similar vein, ceremonial conformity involves the adoption of specific practices considered to align with rational behaviour, although they may likely not have the capacity to improve organisational practices, such as public sector organisations

adopting private sector management accounting practices and schemes for evaluating performance (Brennan & Merkl-Davies, 2013, p. 26).

2.10.4 The Critical Perspective of Impression Management

Prior studies that adopted the critical perspective focused on the management of impressions in attending to controversial issues and events that threaten the legitimacy of an organisation (Brennan & Merkl-Davies, 2013), such as privatisation (Craig and Amernic, 2004a, 2008), unfavourable financial circumstances (Amernic & Craig, 2000), corporate financial scandals (Craig & Amernic, 2004b), and transformational changes (Amernic, Craig, & Tourish, 2007). For this perspective, the direction of analysis is on the manner in which top management use language to convince their stakeholders on the validity, legitimacy or necessity of organisational changes, with the aim of portraying financial scandals as one-off events, or to persuade them of the exceptional nature of the prevailing circumstances that serve as precursor to negative financial performance (Brennan & Merkl-Davies, 2013). Emphasised by Brennan and Merkl-Davies (2013), "language use in corporate documents is never innocent, because it is used to achieve a variety of economic, social and political goals" (pp. 26-27). Thus, such language is "as ideologically saturated … text[s] which wear [their] ideological constitution overtly" (Kress, 1993, p. 174).

These various insights align with the position of this research in contending the great core approach of all previous empirical studies premised on classifying fraud and non-fraud studies, based upon companies that were found to have been fraudulent. This study argues that such classification is likely to be erroneous due to the potential of missing out on a whole sector of companies that were not found out. The position of this study is that all companies are suspect and should be equally validated for differential communication and linguistic traits. In conjunction with other detection models, this can be conducted by evaluating the financial communications of corporate organisations for some seven impression management communication choices (Brennan & Merkl-Davies, 2013).

2.11 Seven Impression Management Communication Choices

There is the potential for the management of impressions to be incorporated into top management communications, and this is more likely to occur as accounting standards do not stipulate the choice of wording in the accounting policies and notes to the audited financial statements (Brennan & Merkl-Davies, 2013). In Merkl-Davies and Brennan (2007), seven categories of language choices used in impression management were identified as reading ease manipulation, rhetorical manipulation, thematic manipulation, visual and structural manipulation, performance comparisons, attribution of performance, and choice of earnings number – which may serve as precursor to earnings management (Brennan & Merkl-Davies, 2013, p. 13). These communication choices are reviewed hereafter.

First, with respect to reading ease manipulation, top management use this technique in making accounting narratives more difficult to read and understand, with the aim of concealing unfavourable financial information (Li, 2008; Smith & Taffler, 1992). By adopting predefined readability scores, the ease or difficulty of accounting narratives can be measured using readability indices such as Flesch Reading Ease, Flesch-Kincaid Readability Grade. These readability indices are used to compare a calculated score with "predetermined standards of written materials graded according to difficulty" (Courtis, 1995, p. 5), ranging from reading materials for children to scientific articles (Brennan & Merkl-Davies, 2013). One of the prominent measures, the Flesch Reading Ease score, is calculated using word and sentence length. It measures the reading ease or difficulty of a text using a 100-point scale. Accordingly, the higher the calculated score, the easier it is to read and understand the text, with a score between 60 and 70 considered as optimal for the comprehension of a text (Brennan & Merkl-Davies, 2013, p. 14). Second, for attempts to rhetorically manipulate the content of accounting narratives, the top management of an organisation may structure their performance results using rhetorical devices (Brennan & Merkl-Davies, 2013). In the examination of the rhetorical effects of discourse, Hyland (1998) argues that the creation of the ethos of the CEO as a professional, competent, trustworthy, authoritative and sincere person are critical elements in establishing credibility in communication.

Third, the thematic manipulation of accounting narratives involves overstating favourable performance results and understating unfavourable performance results (Clatworthy & Jones, 2001, 2003; Smith & Taffler, 1995, 2000; Staw et al., 1983). Fourth, visual emphasis and structural manipulation entails framing the placement of favourable information in accounting narratives, including placing too much emphasis on such information (Bowen, Davis, & Matsumoto, 2005). In addition, this form of manipulation could take the form of concealing bad news in middle passages of text within documents (Courtis, 1998), the highlighting of text (Brennan, Guillamon-Saorin, & Pierce, 2009), the use of colour (Courtis, 2004b), and repetition (Courtis, 1996; Davison, 2008). Fifth, the manipulation of performance comparisons involves tactical selection of the performance results of preceding years as benchmarks for comparison, with the aim of portraying firm performance in the best possible way (Lewellen, Park, & Ro, 1996; Schrand & Walther, 2000; Short & Palmer, 2003).

Sixth, the attribution of performance focuses on the impression management techniques that top management use for the purpose of either claiming credit for favourable organisational outcomes or shifting the blame on external factors for unfavourable organisational outcomes (Baginski, Hassell, & Hillison, 2000; Brennan & Merkl-Davies, 2013). Lastly, Johnson and Schwartz (2005) studied earnings choice or selectivity, and it entails the judicious selection of a favourable earnings figure to disclose in accounting narratives, including pro forma earnings (Brennan & Merkl-Davies, 2013). This current study

argues that both the management of impression in accounting narratives and the selection of impression management communication choices are potent precursors to earnings management. Accordingly, the next line of review focuses on the literature on earnings management.

2.12 Earnings Management in Financial Communications

Holmstrom and Milgrom (1987) emphasised that the separation of ownership from the control of public companies creates an agency problem between the principals (shareholders) and the agents (managers). As a result, the top executives of those companies might not reveal the truth owing to the high contrasting costs between top executives and firms, the bounded rationalities of shareholders that do not enable them to comprehend the actions of managers, and the information asymmetry resulting from the costly communication in the market (El Diri, 2018, p. 1; Milgrom & Roberts, 1992; Ronen & Yaari, 2008; Walker, 2013). Accordingly, the top management of a company may resort to exercising discretion over financial reporting that can take the form of earnings management, provided it is performed within the purview of Generally Accepted Accounting Principles (GAAP) (El Diri, 2018; Fama, 1980; Harris & Raviv, 1979; Strong & Walker, 1987; Walker 2013).

From the theoretical perspectives of previous studies, contemporary research has introduced three different groups of motives for earnings management behaviour including contracting motives that arise from inadequacies in the terms of contract between a firm and its stakeholders, capital market motives that are associated with stock market inefficiencies, and third-party motives driven by the need to conform to the expectations of the external environment which, subsequently, influences the cost of making information available in the market (El Diri, 2018; Ronen & Yaari, 2008; Walker, 2013). The literature on earnings management has separately studied these underlying motives and identified a number of factors specific to each group (El Diri, 2018). With respect to contracting motives, previous studies have identified management remuneration, CEO turnover, corporate governance, managerial acumen, and loans as motivating factors for earnings management (Boone, Field, Karpoff, & Raheja, 2007; Defond & Francis, 2005; Demerjian, Lev, Lewis, & Mcvay, 2013; El Diri, 2018; Godfrey, Mather, & Ramsay, 2003; Iatridis & Kadorinis, 2009; Laux & Laux, 2009; Yu, 2008).

On motives related to capital markets, the influence of the stock market, mergers and acquisitions, issuance of equity, new listings and cross-listings, meeting or beating a benchmark, insider trading, and the effect of analysts have been identified as motivating factors for earnings management (El Diri, 2018, p. 1; Efendi, Srivastava, & Swanson, 2007; Fan, 2007; Kothari, 2001; Lang, Smith Raedy, & Wison, 2006). Lastly, from the external motives perspective, the impact of industry, regulations, accounting standards, industrial diversification, political environment and country-specific policies have been

identified as motives for earnings management (Bagnoli & Watts, 2000; Barth, Landsman, & Lang, 2008; El Diri, 2018, p. 2; Goldman & Slezak, 2006; Jiraporn, Kim, & Mathur, 2006). Of particular importance to this study is the perspective of external motives for earnings management as it aligns to the analysis of the impact of institutions or external environment on organisational behaviour.

Accordingly, El Diri (2018) defines earnings management as within the GAAP exercise of management discretion over external financial reporting function facilitated through the abuse of some deficiencies in contract terms, the bounded rationalities of shareholders, and the asymmetry of information in markets, through some economic decisions, a change in accounting policies or treatment of some items, or other sophisticated methods (p. 2). Hence, the purpose of earnings management is to disclose earnings in a way different from what is known to top management with the view of achieving private benefits while distorting the economic decisions of stakeholders, however, such exercise of managerial discretion may not always be harmful to the stakeholder community (El Diri, 2018). Although earnings management has been studied from different perspectives, overall, its review in this study aims to evaluate the phenomenon in light of the impact of institutional or external pressures and industry factors that motivate earnings management by the top executives of a firm. Historically, this phenomenon has been identified as the underlying reason for some of the corporate financial scandals of large companies like Enron, Satyam, Adelphia, WorldCom and Tyco, and subsequently resulted in the failure of those companies.

To obtain a proper understanding of earnings management in the context of this study, the next sections start by providing a brief review of different definitions of earnings management using a four-stage process introduced in El Diri (2018) by focusing on its characteristics, conditions, activities, and target audience (p. 5). It follows with attempts to differentiate between earnings management and other concepts like impression management, and how earnings management serves as precursor to financial statement fraud.

It is noteworthy that no single definition of earnings management exists in the extant literature on the phenomenon (El Diri, 2018). However, various efforts have been made to mainly define earnings management as the intentional manipulation of the financial reporting process with the aim of achieving specific targets (El Diri, 2018). In the context of this study, three approaches to the definition of earnings management inform the institutional perspective of this study. Mulford and Comiskey (2005) define earnings management as “the active manipulation of earnings toward a predetermined target, which may be set by management, a forecast made by analysts, or an amount that is consistent with a smoother, more sustainable earnings stream” (p. 3). Similarly, Phillips, Pincus, and Rego (2003) define the phenomenon as the exercise of “managerial discretion over accounting choices and operating cash flows”

(p. 493). More recently, Walker (2013) defines earnings management as "the use of managerial discretion over (within GAAP) accounting choices, earnings reporting choices, and real economic decisions to influence how underlying economic events are reflected in one or more measures of earnings" (p. 446).

These three definitions emphasise common themes or phrases which are: the exercise of managerial discretion; and the need to conform to, meet or exceed institutional expectations. In the context of this study, these two themes are particularly essential to the understanding of how the top executives of individual corporate organisations within an institutional setting use the amount of discretion afforded to them in influencing the financial reporting process, with the aim of meeting or exceeding the expectations of the stakeholders in their institutional environment. In view of this, this study posits that the pressure to meet or exceed the expectations of the stakeholder community serves as an underlying motive for top executives to engage in earnings management.

While other definitions not covered in this study may offer better explanation with different perspectives on earnings management, nonetheless, the various definitions commonly emphasise how managers engage in the manipulation of the earnings of their firms (El Diri, 2018). To mention but a few, the literature on earnings management emphasises the recognition of accruals by applying different accounting principles (Baber, Kang, & Li, 2011; Walker, 2013), smoothing earnings with the intention of decreasing their volatility over time (Coffee Jr, 2004; Graham, Harvey, & Rajgopal, 2005; Walker, 2013), and the use of other sophisticated methods such as using derivatives and special purpose entities (Giroux, 2004; Feng, Gramlich, & Gupta, 2009; Petrovits, 2006).

In addition, definitions from previous studies have highlighted the motives that drive managers towards the management of earnings (El Diri, 2018), which may be at the contracting level (Laux & Laux, 2009), capital market level (Gelb & Zarowin, 2002; Kothari, 2001), and the external level such as the influence of regulators and competitors (Goldman & Slezak, 2006; Jones, 1991). Although significant efforts have been made to define and explain earnings management, it has always been confused with other phenomena like impression management (Merkl-Davies & Brennan, 2007); and financial statement fraud (Dechow & Skinner, 2000). The next sections look at differentiating between earnings management and the other concepts mentioned.

With respect to the difference between earnings management and impression management, the latter is a combination of techniques used by firms to opportunistically manage the discretionary aspects of narrative disclosures with the intention of distorting the perceptions of stakeholders, to influence their economic decisions on the basis of information asymmetry between the agents and the principals (El Diri, 2018, p. 10; Merkl-Davies & Brennan, 2007). While impression management entails the manipulation

of the narrative aspects of financial reports, earnings management focuses on exercising managerial discretion over the numerical aspects of the earnings components of financial statements (El Diri, 2018, p. 11).

Similar to earnings management, impression management entails the exercise of the discretionary powers of top executives in financial reporting for the purpose of hiding critical information about the underlying economic performance indices of a firm that ultimately have the potential to mislead and influence the perceptions of the users of financial reports and, hence, leads to short-term capital misallocation (El Diri, 2018, Brennan & Merkl-Davies, 2013). With both earnings management and impression management, the underlying assumption is that both activities are based on the inefficiencies in markets resulting from the bounded rationalities of different users in the stakeholder community (El Diri, 2018). Nevertheless, while earnings management activities entail the manipulation of the numerical aspects of financial statements that have the potential to influence the perception of future cash flows, impression management relies only on the disclosure of the narrative aspects of financial reports (El Diri, 2018). In view of this, managing the impression of narrative disclosures can be seen as a more indirect way of manipulating the perceptions of stakeholders than earnings management. However, it may involve high risk especially with the increasing amount of narrative disclosures that occupy more than half of a firm's annual reports and that may prove difficult to read, be monitored and regulated (El Diri, 2018, p. 11; Merkl-Davies & Brennan, 2007).

With respect to the difference between earnings management and financial statement fraud, the former may take place through the application of aggressive or conservative accounting provisions within the Generally Accepted Accounting Principles (GAAP) that usually happens towards the end of an accounting period, such as increasing or decreasing the estimation of some provisions (El Diri, 2018). In addition, it may take the form of some aggressive or conservative economic decisions that top management may employ at any time during an accounting period to influence cash flows, such as delaying or accelerating the recording of revenue (El Diri, 2018). Furthermore, earnings management may result in understating or overstating the reported earnings within a fiscal period, and can be considered to be pernicious if it results in decreasing firm value or beneficial if it allows signalling additional information about a firm in the foreseeable future (El Diri, 2018). However, earnings management does not involve any violation of accounting principles (Dechow & Skinner, 2000; Ronen & Yaari, 2008), nevertheless, it may serve as a precursor to financial statement fraud (El Diri, 2018).

In contrast, financial statement fraud involves a violation of GAAP and can be committed by top management within or after a fiscal year, with the view of either increasing or decreasing the reporting

earnings of a firm (El Diri, 2018, p. 10). In this sense, financial statement fraud "follows aggressive earnings management behaviour" (El Diri, 2018, p. 10), as such, it is regarded as extremely aggressive in comparison to earnings management (Dechow & Skinner, 2000; Ronen & Yaari, 2008; Walker, 2013). In sum, financial statement fraud is always seen as harmful to a firm and its stakeholders (El Diri, 2018).

As noted previously, three major theories (as shown below in Figures 2.1 and 2.2) have been highlighted that explain the underlying motives for earnings management: the contracting motives, capital market motives, and external or third-party motives. Of particular importance to this study is the external, institutional or third-party motives perspective as it provides the basis for discussing the interests and influence that the stakeholder community have on a firm, which have the potential to interfere in the way it communicates information to the stakeholders (El Diri, 2018; Ronen & Yaari, 2008; Walker, 2013). Accordingly, the next sections follow with a review of the external or third-party motives for earnings management which can then serve as precursor to financial statement fraud.

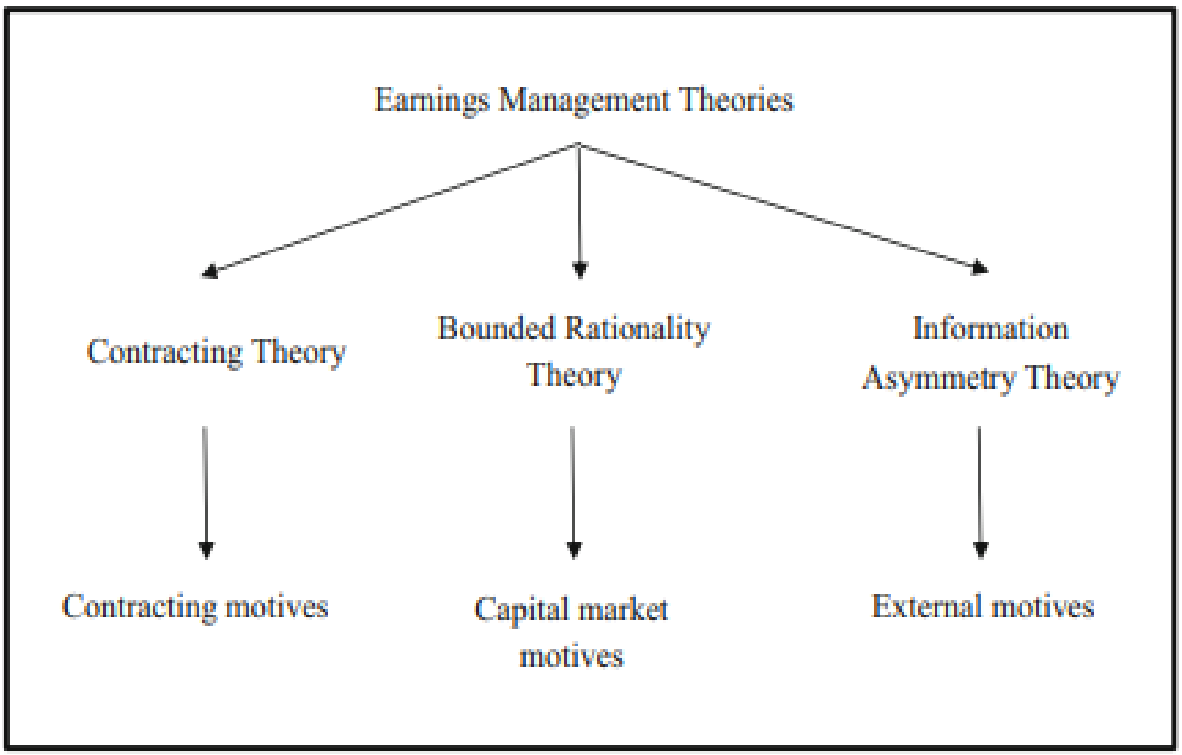

Figure 2.1 The relation between the theoretical framework and earnings management motives. Source: El Diri (2018, p. 64)

Contracting Motives	Capital Market Motives	External Motives
Management compensation	Stock market	Industry
CEO turnover	Issuance of equity	Industrial diversification
Managerial ability	New listing and cross-listing	Regulations
Corporate governance	Mergers and acquisitions	Political environment and country-specific policies
Loans	Insider trading	Accounting standards
Firm characteristics	Management buyouts	Tax considerations
	Meeting or beating a benchmark	Competitors
	Analysts	Suppliers and customers

Figure 2.2 External or Third-Party Motives for Earnings Management

Although the need to meet or exceed predetermined benchmarks (Graham et al., 2005) and the influence of analysts' forecasts (Ronen & Yaari, 2008) are categorised as capital market motives for earnings

management, this study draws insights from these capital motives in conjunction with the clearly classified external motives of earnings management, such as the influence of industry norms and values, and the presence of industry competitors. Accordingly, the next sections follow with a review of the influence of benchmarks and analysts' forecasts on earnings management. It follows with a review of the influence of the expectation of conformity to industry norms and values, and the presence of industry competitors on earnings management in financial communications.

With respect to the pressure to meet or beat a benchmark, the top management of a firm may be motivated to engage in earnings management (El Diri, 2018). According to El Diri (2018), benchmarks are meant to mitigate the risks attached to information asymmetry between a firm and the market, which can take the form of earnings of prior years, zero earnings, or analysts' forecasts (Xue, 2003). Furthermore, the top management of a firm may be motivated to meet analysts' forecasts because they reflect the expectations of the general market which affords a firm more credibility in the market should those expectations be met or exceeded (Graham et al., 2005).

In addition, firms that are classified within the same industry generally have similar institutional logic (Thornton & Occasion, 2013), and are identifiable through legal and financial incentives (El Diri, 2018). Therefore, they tend to consider the behaviour of other similar firms in that industry when making their decisions (Kallunki & Martikainen, 1999; Othman & Zeghal, 2006; Popp, Toms, & Wilson, 2003). In a similar vein, Bagnoli and Watts (2000) emphasise that there is a positive correlation between earnings management activities of a firm and the levels of comparable activities in the same industry. On the other hand, different industries develop on the basis of differentials in the resources available to them, which ultimately determine their distinct industry structures and institutionalised characteristics, and contribute to the differences in performance and profitability between them (Mcgahan & Porter, 1997; Popp et al., 2003).

Consequently, the differences in managerial incentives and discretion between the different industries results in the variation in the type and degree of earnings management activities adopted in each sector (Aharony, Lee, & Wong, 2000; Gu, Lee, & Rosett, 2005). Specifically, Gu et al. (2005) note that firms operating in industries with a high level of managerial discretion have more potential to engage in earnings management than those with a low level of managerial discretion. Overall, the various insights above provide evidence that aggressive earnings management serve as precursor to deception in financial communications. This leads to the review of the literature on deception and its context in financial reporting.

2.13 Deception

Deception is defined as an intentional and conscious attempt to convince someone of a particular subject the liar believes to be untrue, which varies in different contexts (Granhag, Vrij, & Verschuere, 2015). The context of relationships is different with varying levels of stakes, hence some lies told in some contexts are considered trivial and inconsequential while others are serious and have debilitating consequences, thereby demanding more rigorous need for their detection. From all forms of crime, be it terrorism crime, immigration crime or financial crime, those charged with the responsibility of providing regulatory or oversight roles strive to detect deception (Granhag et al., 2015). Accordingly, for the purpose of detecting such serious lies, researchers have been studying how liars respond and how those lies could be detected. In view of this, there are various methods but with four notable approaches towards deception detection. Investigators could approach the detection of deceit by measuring the physiological responses of the subjects of investigation; through the observation of their behaviour; by analysing their speech; or measuring activities around their brain region (Granhag et al., 2015). Traditionally, the assumption was that what aids the detection of deception was the essential element of fear of being detected (Trovillo, 1939). Subsequently, there have been developments to the methods used in deception detection covering verbal, non-verbal and physiological techniques, with recent introduction of the cognitive approach to the detection of deceit, which is in contrast to the more conventional anxiety-based approaches.

One prominent approach towards the detection of deceit which has a long history is the analysis of speech content. It is suggested that, with a combination of some physiological and behavioural cues, a subject of deception 'does not answer questions, or they give evasive answers; he speaks nonsense' (Trovillo, 1939, p. 849). Similarly, in the acknowledgment of Tardieu, a French forensic expert, 'quantity of detail' is one of the characteristics to be considered in ascertaining the veracity of allegations in sexual abuse cases involving children (Lamers-Winkelman, 1999). However, it is not clear as to how the element of 'quantity of detail' would assist in distinguishing truth from deception in statements made by adults. It is unclear if the amount of detail is a true measure of truth or deception. Owing to the fact that corporate organisations are headed by experienced top executives in specific industry groups, with majority of them having mastered the principle of public relations, it is arguably unreliable to endorse the veracity of their statements by mere reliance on the 'quantity of detail' in such statements.

Nonetheless, the inability of some of the early propositions in successfully distinguishing between truth and deception has not undermined the search for verbal cues to deceit. there is a sustained search for those cues that help in identifying deception, with a substantial number of studies having been found to be diagnostic for deceit (DePaulo, Lindsay, Malone, Muhlenbruck, Charlton, and Cooper, 2003; Masip,

Sporer, Garrido, & Herrero, 2005; Vrij, 2008). Whilst it is possible to measure some verbal cues in isolation, most of them are combined as verbal veracity assessment tools towards unravelling deception, some of which are: Criteria-Based Content Analysis (CBCA), Scientific Content Analysis (SCAN), Management Obfuscation Hypothesis, Interpersonal Deception Theory, amongst others. Prior to assessing these various deception detection techniques, it is noteworthy to explore the reasons why people lie and why they remain unnoticed, the frequency of lying, and the targets of deception

On the reasons why people lie, it is arguably conventional to view lies as being told to gain material advantage over others or to avoid the possibility of creating materialistic loss on the targets of deception. This form of deception could be labelled as selfish, disruptive to social life, and hurtful to the target audience (Vrij, 2008). It is stereotypical for the popular press (DePaulo, Kashy, Kirkendol, Wyer, & Epstein, 1996) and individuals (DePaulo, 2004; Kowalski, Walker, Wilkinson, Queen, & Sharpe, 2003; Schweitzer, Hershey, & Bradlow, 2006) to have a negative view of lying. Nevertheless, it is also valid that there are psychological reasons why people lie, and that those lies typically receive more understanding (Seiter, Bruschke, & Bai, 2002). This view reflects on the work of Goffman (1959) who pointed to the potential theatrical capability of individuals, behaving as actors on a set stage. In the same vein, it lends credence to one of the reasons why lies remain unnoticed: individuals do not proactively attempt to detect them because they are sceptical of the consequences of knowing the truth, a phenomenon referred to as the 'Ostrich Effect' (Vrij, 2008, p. 2).

Accordingly, the reasons why individuals are not motivated to know the truth are classified into at least three categories. First, the target audience of deception might sometimes find fabricated disclosures to sound more pleasant than the knowledge of the truth, with ignorance preferable in such cases (Vrij, 2008). Second, individuals sometimes do not attempt to investigate whether or not they are susceptible to or apparent victims of deception, owing to the fear of the consequences of knowing the truth. In the same vein, a victim of deception may try to avoid having the knowledge of the truth especially when there are future benefits derivable from the perpetrator, and the consequences of revelation of the truth far supersede the need to discover the truth. Similarly, in a corporate business context, this study argues that stakeholders would rather not push to investigate suspicions of earnings management in a bid to avoid crashing the market value of their investments, which is the consequence of proof of fraudulent financial misstatements. Third, potential victims of deception do not want to investigate any suspicion of lies because they might be clueless on what to do if they came to discover the truth (Vrij, 2008), hence, they prefer to remain ignorant.

Goffman's (1959) study advances insights from contemporary studies with many having argued that the presentation of self which is offered to others in daily life is not the true self, but one that is edited (Allen & Gilbert, 2014; DePaulo, 2004; DePaulo et al., 1996, DePaulo, Lindsay, Malone, Muhlenbruck, Charlton, & Cooper, 2003; Feldman, Forrest, & Happ, 2002; McCornack, 1997; Turner, Edgley, & Olmstead, 1975). Accordingly, the edited version of self considers the public perception of the perpetrator and how they wish to be seen. Individuals lie to avoid the possibility of embarrassment attributable to the revelation of their inadequacies and errors, while it is also possible to lie for the purpose of protecting others with the intent to avoid deliberately hurting their feelings (Vrij, 2008). Hence, in a bid to protect continuous social interaction, individuals lie for various reasons, albeit, motivated through the need: to benefit self – which is the case of occupational fraud -; or for the benefit of self, a group or an organisation – which is the case of corporate fraud -, to gain advantage or avoid debilitating costs; and for materialistic or psychological reasons, especially with creating a positive impression on others (Vrij, 2008, p. 19).

With respect to other-oriented lies, the perception is that such lies are told for the benefit of other people, to make them appear better, to protect them from incurring undeserved materialistic loss, punishment or experiencing psychological damage (Vrij, 2008). This could be the case of top executives of corporate institutions denying allegations of fraud in other to save them from public embarrassment – personal benefit, or for the purpose of preventing negative market reactions on the wealth of their shareholders at the revelation of the truth – the benefit of others. Social lies are considered to benefit mutual relations, which satisfy both self-interests and those of others. With this theoretical and empirical background on deception, it is imperative to evaluate some prominent theories and methods for analysing deceptive discourse, some of which are: Criteria-Based Content Analysis (CBCA), Scientific Content Analysis (SCAN), Management Obfuscation Hypothesis, Interpersonal Deception Theory.

2.13.1 Criteria-Based Content Analysis (CBCA)

Criteria-Based Content Analysis (CBCA) is a method developed within Statement Validity Analysis (SVA), which is used to assess the truthfulness of a child's testimony in sexual offences (Granhag et al., 2015). However, CBCA has been applied successfully in several different contexts including accounting research (Humpherys, Moffit, Burns, Burgoon, & Felix, 2011). The overarching rationale of CBCA, as originally hypothesised by Undeutsch (1982), is that there are differences, with respect to the content and quality, between statements derived from recollections of actual experience and those based on fabrication or fantasy (Granhag et al., 2015). In CBCA, trained investigators assess the presence or absence of a set of 19 criteria (shown below in Table 2.4). It follows that the veracity of a verbal statement is strengthened with the presence of each criterion. Therefore, truthful statements based on genuine personal experience will contain more of the constituent elements measured by CBCA than fabricated

reports, with the scores attributable to each element subject to both cognitive and motivational factors (Köhnken, 1989, 1996, 2004).

Table 2.4: Criteria-Based Content Analysis (Vrij, 2008, p. 208)

NO	THE CRITERIA-BASED CONTENT ANALYSIS CRITERIA
	GENERAL CHARACTERISTICS
1	Logical structure
2	Unstructured production
3	Quantity of details
	SPECIFIC CONTENTS
4	Contextual embedding
5	Descriptions of interactions
6	Reproduction of conversation
7	Unexpected complications during the incident
8	Unusual details
9	Superfluous details
10	Accurately reported details misunderstood
11	Related external associations
12	Accounts of subjective mental state
13	Attribution of perpetrator's mental state
	MOTIVATION-RELATED CONTENTS
14	Spontaneous corrections
15	Admitting lack of memory
16	Raising doubts about one's own testimony
17	Self-deprecation
18	Pardoning the perpetrator
	OFFENCE-SPECIFIC ELEMENTS
19	Details characteristic of the offence

In the context of accounting research, only some of the criteria of CBCA are currently amenable to computerised text analysis techniques including quantity of details (Granhag et al., 2015, Vrij, 2008), and words that describe feelings, time and space (Humpherys et al., 2011). Furthermore, CBCA is based on the hypotheses that truthful statements will contain more unusual details, more superfluous details, more overall details, with more references to time, space, and feelings than statements that are deceptively crafted (Granhag et al., 2015; Humpherys et al., 2011). In view of this, statements derived from actual experiences should contain more contextual embedding than statements based on deception (Granhag et al., 2015). Nevertheless, it remains unclear if these same cues will be of significance in the context of corporate financial communications. For example, corporate financial communications may not be

reflective of references to feelings, but testing for the quantity of affect words have the potential for differentiating between fraudulent and non-fraudulent financial communications (Humpherys et al., 2011). This line of thought applies to the inclusion of any of the language features hereafter discussed. In addition, as a technique developed within SVA, a Validity Checklist – comprising 11 issues (shown below in Table 2.5) - is applied to evaluate whether or not certain external factors affect CBCA scores. Through systematic analysis of the identified external factors noted in the Validity Checklist, an investigator is enabled with the possibility of exploring and considering the alternative interpretations of the CBCA outcomes, instead of strictly adhering to the theoretical interpretation of each criterion. Consequently, the affirmative response given to each external factor raises a question about whether or not the CBCA outcome remains valid (Granhag et al., 2015, p. 11).

Table 2.5: The Validity Checklist (Vrij, 2008, p. 214)

1. Inappropriateness of language and knowledge
2. Inappropriateness of affect
3. Susceptibility of suggestion
4. Suggestive, leading, or coercive questioning
5. Overall inadequacy of the interview
6. Questionable motives to report
7. Questionable context of the original disclosure or report
8. Pressures to report falsely
9. Inconsistency with the laws of nature
10. Inconsistency with other statements
11. Inconsistency with other evidence

For the purpose of this research, the external factors of the Validity Checklist that specifically inform the rationale of this study are the interviewee's 'susceptibility of suggestion' when faced with questions from the investigative press; the 'pressure to report falsely' when dealing with stakeholders that seek for above-average-market-returns; 'inconsistency with the laws of nature', which is a measure of the plausibility or implausibility of described events or future predicted performance; 'inconsistency with other statements', which is conducted by considering whether there are significant elements in corporate narratives which contradict or are inconsistent with another statement made by top executives; and 'inconsistency with other evidence', which is a measure of whether or not major elements in the statements of members of top management team align with reliable physical evidence or other concrete evidence, which is usually the case of comparing qualitative information with quantitative sections of corporate reports.

2.13.2 Scientific Content Analysis (SCAN)

Scientific Content Analysis (SCAN) is a unique version of CBCA which hypothesises that both truthful persons and deceivers have similar intention of convincing their target audience of their truthfulness (Granhag et al., 2015; Humpherys et al., 2011; Vrij, 2008). As a matter of procedure, this technique adopts written statements authored by the subject of an investigation to avoid the risk of contamination by other parties. In corporate financial reporting context, this principle is particularly useful in the assessment of truthfulness of corporate reports, owing to the fact that the investigative press, external auditors, and financial reporting regulatory authorities are not involved in the writing of financial reports, thereby eliminating any possibility of the reports, subject to their scrutiny, being contaminated.

However, in the business context, some corporate reports are either written or proof-read by Public Relations Companies (P.R Companies) to prevent top management from releasing sensitive information to the public, which would likely negatively affect the outlook of their client organisation (Abrahamson & Hambrick, 1997). Therefore, it would be helpful to compare edited evaluative statements of top management (annual reports) with extemporaneous non-evaluative statements (discussions with analysts, conference call, prospectuses) made by them, for the purpose of differentiating between linguistic cues of the two forms of statements.

2.13.3 Management Obfuscation Hypothesis (MOH)

The corporate financial communications disclosed by top management are inherently difficult to read (Humpherys et al., 2011). However, according to the Management Obfuscation Hypothesis (MOH), financial communications that contain unfavourable financial performance results should be even more difficult to read and understand (Bloomfield, 2002). According to Bloomfield (2002), top management will have an incentive to dissimulate or obfuscate unfavourable financial performance results if they so desire, to delay the response of the market to the unfavourable news. It is expected that when a company performs poorly, there is an incentive for management to cover up the unfavourable performance in order to delay stock price reactions, by decreasing the readability of their financial communications (Li, 2008).

As an extension of Bloomfield's incomplete revelation hypothesis, MOH states that information that is costly to extract and process will not manifest immediately in market prices, hence, it provides the potential for management to delay market price reaction by manipulating the readability of financial communications and making them more costly to analyse (Humpherys et al. 2011). In a similar vein, Li (2008) emphasises that top management of poorly performing firms wish to hide unfavourable financial performance results by decreasing their readability and comprehensibility. McNamara, Graesser, McCarthy, & Cai, (2014) used the Flesch Reading Ease to operationalise and measure readability. The

Flesch Reading Ease takes into consideration sentence complexity (as measured by average sentence length) and word complexity (as measured by average word length) to determine the readability of a text. It follows that longer sentences and longer words are proxy measures for complexity and should occur either during periods of unfavourable financial performance results (Bloomfield, 2002) or when fraud is present (Humpherys et al., 2011).

2.13.4 Interpersonal Deception Theory (IDT)

Interpersonal Deception Theory is mainly concerned with deceptive interchanges dyadic and dialogic (Humpherys et al., 2011). However, the developers of IDT provide many insights into the applicability of IDT, for the purpose of assessing the behaviour of deceivers in non-interactive, decontextualised, and asynchronous settings in which documents like annual reports are published (Buller & Burgoon, 1996). Interpersonal Deception Theory combines principles from interpersonal communication and deception to deduce a series of propositions that predict the behaviours of senders and receivers of a message in an interactive context (Humpherys et al., 2011, p. 587). These series of propositions are with respect to context and relationship, strategic activities conducted prior to communication, effect of the communication on sender's deception and fear of detection, effect on the cognition of the receiver, and interaction patterns (Buller & Burgoon, 1996). Two important assumptions of IDT are that deceptive communication is goal-oriented and that deceptive individuals want to minimise taking responsibility for their deceit if it becomes discovered. In the context of corporate financial reports, the CEO and members of top management team are personally held responsible for the financial reporting function of their company.

Therefore, to reduce the risk associated with the content of financial communications documents that bear the signatures of top executives, they would seek to minimise the number of claims or definitive statements made in those documents (Humpherys et al., 2011). This behaviour would be more important and manageable in annual reports, a communication vehicle that gives top executives more flexibility and opportunity to edit and re-edit the content of annual reports, including the use of public relations experts in crafting and managing information disclosed to the stakeholder community. In the context of this study, this is important in evaluating the differences in the language features of the communications of top executives in monologue (annual reports) and dialogue/interactive settings (discussions with analysts).

Another important assumption of IDT is that deceptive individuals strategically manipulate information while trying to attain their goals, which can be accomplished by managing the completeness of a message, its truthfulness and relevance (Humpherys et al., 2011). It follows that truthful persons and deceivers alike try to manage their image, but companies engaged in earnings management or fraud will

more likely engage in impression management (Brennan & Merkl-Davies, 2013) by trying to deceptively present their company in a more positive light than is necessary. On the other hand, non-fraudulent firms will be more inclined to include unfavourable information in their reports if necessary (Humpherys et al., 2011).

In sum, these different theories and methods for differentiating between truthful and deceptive statements provide a framework for understanding the strategic and non-strategic placement of deceptive behaviours in financial communications. These behaviours can emanate from a routine earnings management behaviour which, if aggressively institutionalised, may lead to fraudulent financial reporting. Hence, the next section focuses on a brief review of the literature on deception in the context of financial reporting – otherwise known as financial statement fraud.

2.14 Deception in the Context of Financial Reporting – Financial Statement Fraud

Deception is a phenomenon which has attracted a lot of research effort, especially in the psychological domain. As emphasised above, it entails the intentional effort to communicate information for gain to a target individual, which the perpetrator knows is untrue. Accordingly, in the process of communicating among individuals, the basis on which the confidence of the parties to the communication rests is 'trust'. Hence, deception is an action which violates that trust. With the possibility that the concept is adapted with various synonyms in different research domains, in the context of business and finance, deception is simply regarded as fraud. Accordingly, the use of 'fraud' as a suitable terminology in this study. That being said, it is imperative to review the concept of fraud in generic terms and as it relates to accounting and finance. Fraud has been defined in different ways. According to Webster's New World Dictionary, fraud is defined as "the intentional deception to cause a person to give up property or some lawful right". This definition suggests the perpetrator possesses some influential and or authoritative position to deceitfully obtain another's lawful possession, however, fraud is also possible where an individual of a lower rank deceives the top management of an organisation as in the case of employee fraud.

In the UK jurisdiction, what connotes fraud is defined by the Fraud Act 2006 as an act which involves false representation; failure to disclose information when there is a legal duty to do so and; the abuse of position (Campbell, 2007). With this perspective in the definition of fraud and the insights from the legal domain, it is evident that fraud is not an error. While there is the instance where erroneous acts could mislead others to their disadvantage, a fraudulent act is not a product of error. This means that fraud is not a consequence of uncontrollable complications and unavoidable occurrences, but such that is crafted with the intent to obtain criminal advantage from others. With the consequences emanating from fraud,

various estimates have been generated in times past. In business and accounting domain, a common fraud stereotype is the financial statement fraud.

2.14.1 Financial Statement Fraud

Defining financial statement fraud (FSF) in clear and absolute terms is difficult owing to the difficulty in discerning FSF from authoritative statements or pronouncements, primarily because the accounting profession only adopted the word 'fraud' in its professional pronouncements in the 1990s (Rezaee & Riley, 2010). The Association of Certified Fraud Examiners (ACFE) define FSF as "the intentional, deliberate, misstatement or omission of material facts, or accounting data which is misleading and, when considered with all the information made available, would cause the reader to change or alter his or her judgment or decision" (cited in Rezaee & Riley, 2010, p. 5). In addition, the National Commission on Fraudulent Reporting considers FSF to be an "intentional or reckless conduct, whether act or omission, that results in materially misleading financial statements." (Treadway, 1987, p. 2, cited in Rezaee & Riley, 2010, p. 5) From the various definitions considered, a common theme on fraud, specifically financial statement fraud, is the recurrence of the phrase "deliberate deception", with a proven intent to cause harm, injury, or damage.

Financial statement fraud, fraudulent financial statement, and top management fraud have been used interchangeably, primarily because, it is the corporate responsibility of management to prepare and publish reliable financial reports, and also due to the fact that the responsibility for ensuring the fair presentation, integrity and the quality of financial reporting process is vested in the management of an organisation (Rezaee & Riley, 2010). According to the United States Department of Justice, corporate fraud is broadly classified into: accounting fraud or financial fraud, self-dealing by corporate insiders, and obstructive conduct (cited in Rezaee & Riley, 2010). On the aspect of accounting fraud, it entails the falsification of accounting information by manipulating accounting records to mislead investors, with schemes such as swap transactions, capitalising expenses, deferred expenses, and accelerated revenue (Rezaee & Riley, 2010, p. 6). Self-dealing, on the other hand, involves members of top management misappropriating corporate assets such as personal expenses charged as company costs, loans granted to top executives with no intention to repay. Lastly, top management also engage in obstructive conduct by providing false testimony in depositions to regulatory authorities, providing false witness and testimony in the course of criminal investigations, and failure to provide documents required in subpoena (cited in Rezaee & Riley, 2010).

Furthermore, FSF differs in nature, course, and determinants across various jurisdictions. The manipulation of earnings by management to deceive unsuspecting investors is particularly common in

the United States, while in mainland Europe, the majority of FSF schemes border on intentionally devising strategies that benefit controlling shareholders to the detriment of minority shareholders (Rezaee & Riley, 2010). Regardless of whatever scheme is frequently used in any jurisdiction, the board of directors, audit committee, external auditors, and the regulatory authority are presented with challenges capable of affecting the global economy. Nevertheless, the uniqueness of FSF strategies in any jurisdiction makes it challenging for fraud prevention and detection methods applied in one jurisdiction to be effective in others.

2.14.2 Financial Statement Fraud Detection

In the review of literature on fraud, the phenomenon has been generally defined as the use of misrepresentations or criminal deception to gain unjust advantage on a target audience. In addition, human ingenuity seems to contribute to the variety of fraud schemes devised in the contemporary business world. In the same vein, globalisation creates the propensity for fraudulent conducts in the business domain to have large scale impacts globally. This is evident in the discovery of financial fraud in Enron, followed by the subsequent revelation of fraud in the corporate reports of companies like Tyco, WorldCom, Adelphia, Satyam, among others. This continuous perpetration and unravelling of financial fraud shows that it has become a critical phenomenon in the business arena, a reason for the enactment of the Sarbanes Oxley Act of 2002 in the USA.

As a constituent part of information forensics, the detection of fraud has become indispensable in an effort to safeguard the interests of businesses and their stakeholders. Traditionally, it is within the expertise of financial analysts and assurance providers such as auditors to conduct financial fraud detection. In the course of analysing financial reports, financial analysts use financial metrics to measure the solvency, profitability, growth, among other measures, between several periods and among industry-related firms, for the purpose of performing full and diligent audit procedures. Although the detection of financial fraud is dominant in the context of financial statement fraud, nevertheless, it is also applicable to detect fraudulent practices related to insurance payment claims, credit card transactions, mortgage claims, and web-based financial transactions (Bose, Piramuthu, & Shaw, 2011). Accordingly, with the advancement in information technology and decision sciences, advanced models in quantitative research have been developed, with specific emphasis on the development of automated processes that help minimise the use of manual operations in the detection of fraud.

Established for financial fraud detection are tools useful for data analysis such as Bayesian belief networks, self-organising maps, discriminant analysis, regression, clustering, decision trees, neural networks, support vector machines, among others. Common to all the quantitative fraud detection models

is the use of a variety of disclosures in financial statements or financial transactions as viable inputs, of which the outputs have been used to distinguish between fraudulent and non-fraudulent organisations or to predict the likelihood of a company adopting fraudulent financial practices. It is noteworthy that, in addition to the well-established quantitative fraud detection models, contemporary research in the detection of financial statement fraud have adopted the mining of the qualitative sections of financial reports to determine the existence of fraud in textual corporate disclosures. Accordingly, the rationale is that fraudulent financial statements may be a precursor to financial fraud, such that financial statements may be perpetrated by deploying linguistic techniques to hide deception in the textual sections of corporate reports.

2.15 Fraud Detection – Contemporary Qualitative Fraud Detection Approaches

2.15.1 Qualitative Fraud Detection Techniques

In comparison to the quantitative fraud detection models, the use of financial narratives are relatively less numerous (Minhas & Hussain, 2016). A comprehensive literature review by Merkl-Davies and Brennan (2007) provide an approach for analysing the narrative sections of corporate reports using manual/semi-automated content analysis approaches. Accordingly, seven core strategies were found which have potential for impression management in corporate narratives. Emphasised and adopted in Minhas and Hussain (2016) are two pertinent strategies: the obfuscation of bad news and emphasis placed on good news. In the former strategy, the proposition is that managers can be motivated to obfuscate bad news by limiting the clarity of textual information in corporate reports, such that the information contained therein is more costly to extract, consequently, making it difficult for poor performance to be reflected instantly in market prices. Hence, bad news can be obfuscated by manipulating rhetoric or through the increased difficulty of reading.

Similarly, deploying rhetorical language has been used to conceal poor corporate performance through the use of passive voice, pronouns, and metaphor. Merkl-Davies and Brennan (2007) argue that "what firms say" is not more important than "how they say it", a term known as the management obfuscation hypothesis. Prior studies in this context use the Flesch Reading Ease, Flesch-Kincaid Readability Grade, or Gunning Fog Score to pick up the constructs of rhetorical language, for the purpose of measuring the readability of corporate reports (Feldman, Govindaraj, Livnat, & Segal, 2010). In the latter strategy, the proposition is that managers can overly emphasise on good news by manipulating the thematic constructs of corporate reports, a strategy considered as the "Pollyanna principle" which explains how emphasis can be placed on good news as well as the simultaneous concealment of bad news (Minhas & Hussain, 2016).

In a previous study, Li (2006) examined the information in the qualitative sections of annual reports to determine the risk sentiment of annual reports used in the prediction of future earnings and market returns. He conducted his study by counting the frequency of words that are associated with risk or uncertainty in annual reports. He found that an emphasis on risk by top executives in annual reports is associated with lower future earnings. This suggests that the investment community underreacts to the textual portion of annual reports made available to the public. Similarly, Tetlock (2007) explored the relationship between media content and activities in the stock market by assessing investor sentiment extracted from a popular Wall Street Journal column (Goel & Gangolly, 2012). By measuring the pessimism index based on words derived from the General Inquirer (GI) dictionary, he found that high media pessimism predicts downward pressure on stock prices followed by a return to fundamentals, and unusually high or low pessimism predicts high market trading activities (Goel & Gangolly, 2012, p. 77).

Furthermore, Li (2008) examined the relationship between the readability of annual reports and the performance of firms and earnings persistence. By using both the fog index from computational linguistics and the length of document (Goel & Gangolly, 2012, p. 77) as measures of readability, he found that it is more difficult to read and understand the annual reports of firms with lower earnings. In contrast, firms with annual reports that are easy to read and understand have more persistent positive earnings. This suggests that top executives may be deliberating manipulating the readability of annual reports to obfuscate unfavourable financial performance results.

In another study, Cecchini, Aytug, Koehler, and Pathak (2010) analysed the Management Discussion & Analysis (MD&A) sections of corporate annual reports to predict fraud and bankruptcy. They formed a dictionary of discriminating concepts from MD&As which could differentiate between fraudulent and non-fraudulent firms. They found that 75% of the time, their method could differentiate between fraudulent and non-fraudulent companies, while 80% of the time the same approach could differentiate between bankrupt and non-bankrupt firms. To improve their classification technique, they combined qualitative data with quantitative data. The result showed an increase in the prediction accuracy to 81.97% for fraud and 83.87% for bankruptcy (Goel & Gangolly, 2012, p. 77).

Also, Goel, Gangolly, Faerman, and Uzuner (2010) examined the qualitative sections of the annual reports using a Natural Language Processing (NLP) tool and explored the language features that have the potential for differentiating between fraudulent and non-fraudulent annual reports. To proactively identify ways to detect fraud, they created a methodology using support vector machines, a supervised machine-learning technique (Goel & Gangolly, 2012, p. 78). They found that the employment of language features is effective in the detection of fraud. In addition, they were able to improve the classification

accuracy of fraud detection models from the baseline results of 56.75% accuracy, using a 'bag of words' approach, to 89.51% accuracy when they combined linguistically motivated features. They found systematic differences in the communication and writing style of the annual reports of fraudulent companies (Goel & Gangolly, 2012).

Humpherys et al. (2011) examined 202 publicly available financial disclosures to assess the language features that can help identify the use of fraudulent language in fraud committed by top management. They found that fraudulent financial communications use more activation language, words, pleasantness, imagery, references to groups, and less lexical diversity than non-fraudulent companies (Goel & Gangolly, 2012). Their results suggest that the authors of fraudulent financial information have the potential to write more to appear credible, while communicating less in actual content. Furthermore, Goel & Gangolly (2012) examined the implications of the language features of annual reports for potential fraud. They found that six categories of language cues are associated with fraudulent financial communications which are: the use of complex sentences, difficulty of reading and comprehension, the use of positive tone, passive voice, language of uncertainty, and the use of adverbs (p. 87).

Lastly, Purda and Skillicorn (2015) used a 'bag of words' approach in their fraud detection study by broadening comparisons of qualitative and quantitative fraud detection models and examined the possible benefits of investigating the change in a firm's language use from one reporting period to the next in the identification of fraudulent financial reporting. They developed a language-based method for fraud detection using the words in the MD&A sections of annual and interim reports. For the purpose of eliminating bias in the classification between fraudulent and non-fraudulent companies, they trained their model on Accounting and Auditing Enforcement Release (AAER) by using a decision-tree approach to establish a rank-ordered list of words from the MD&A sections that are considered as best for distinguishing between fraudulent and non-fraudulent reports. Based on the top 200 words generated from the list, they used Support Vector Machines (SVMs) to predict the status of each report and assign it a probability of truth, an approach that achieved a correct classification rate of 82%. In addition, their method provided first indication that the inclusion of interim financial reports and a temporal measure of deviations in the language use by companies in previous periods may provide incremental power in the timely identification of fraudulent reports.

Taken as a whole, the need to detect potential fraudulent financial reporting has invoked the instincts of researchers in the field of accounting in exploring the various linguistics analysis techniques available for this purpose. In view of this, this study reviews the literature on the analysis of language and computerised content analysis of corporate communications.

2.15.2 Linguistic Analysis – The Content Analysis of Corporate Communications

One of the prominent terminologies for expressing the use of automation in the analysis of corporate communications is Computer-aided Text Analysis (CATA) (Bligh & Kohles, 2014), a method that demonstrates enormous potential for advancing the study of leadership communications. Bligh and Kohles (2014) emphasise the need to seek for innovative ways towards utilising textual information from diverse sources such as annual reports, transcripts from meetings, statements to shareholders, in order to move beyond the traditional study of leadership communication in the fields of management and organisational psychology. In view of this, this study reviews the use of CATA in comparing the communications of organisational leaders across different contexts and historical time periods, through the medium of prior studies that have adopted this approach. With notable strengths and weaknesses of CATA techniques, this study argues that CATA represents an important technique in unravelling potential rhetorical manipulation of corporate communications by organisational leaders in a wide variety of leadership contexts. This is particularly important in the context of impartially comparing between or among leaders across institutions and in specific situations.

This current study argues that the study of the communications of organisational leaders across different contexts and historical time periods can provide critical understanding of the processes of communication that underlie organisational outcomes. These outcomes such as the communication of the performance results of organisations are not commonly examined from the perspective of leadership communications. In view of this, this study reviews prior studies that have considered a wide range of data sources, variables, and approaches that can be adopted in studying the communications of organisational leaders, and to review the inherent advantages and disadvantages of using automated techniques like CATA in unravelling linguistic cues embedded in the communications of corporate leaders. Subsequently, this study will emphasise the need to evaluate leaders' communications in the refined granular context of their institutions and prevalent circumstances.

Traditionally, language has been considered as a significant foundation for the process of leadership (Bligh & Kohles, 2014), and scholars in the fields of management and organisational psychology have argued that the interlink between the leaders of organisations and their followers is fundamentally rooted in the processes of communication and discourse (Barge et al., 1989; Conger, 1991; Bligh and Kohles, 2014; Fairhurst & Sarr, 1996; Insch et al., 1997; Komaki & Citera, 1990). In view of this, this study argues that CATA can provide the evaluation of the linguistic strategies organisational leaders use in communicating to the users of financial information. Accordingly, this study posits that content analysis techniques and several other innovative technologies can be applied in the study of corporate communications, through the continuous utilisation of textual data from different sources such as CEO

letters to shareholders, transcripts from conference calls and analysts' discussions, and other executive speeches. Lastly, this study adopts the techniques provided by CATA to assess what organisational leaders say during periods of good and bad organisational outcomes.

2.16 Communication in Organisational Leadership

Organisational leadership is a phenomenon that is socially constructed, a medium through which some individuals strive to structure, define, or sometimes influence the reality of other individuals (Smircich & Morgan 1982). An important part of the structuring of such communication can be linked through oral and written language, a process which offers invaluable opportunities for researchers in the fields of management and organisational psychology to study leadership communications in contextually based situations, yet using unobtrusive approaches (Bligh & Kohles, 2014). Furthermore, the advancement in technology provides automated approaches towards studying the communications of organisational leaders across various contexts and over historical time periods. Importantly, the analysis of corporate communications by organisational leaders continues to provide the medium for analysing the communication of leaders, by obtaining their oral or written statements and evaluating them within the time and context that they occur, an approach that has been used in prior studies (Barge & Schlueter, 1991; Barge et al., 1989; Fairhurst, 2007; Fairhurst & Chandler, 1989; Fairhurst & Sarr, 1996; Fairhurst et al., 1987; Komaki & Citera, 1990).

Although the techniques provided using CATA have great potential for identifying linguistic features of larger discourses, the focus of this study is on evaluating the financial communications of organisational leaders in the context of institutional theory. Specifically, these techniques provide both macro- and micro-levels of analysis of specific vocabularies, comparable components, and dimensions of the use of language that is well suited to identifying and comparing the embedded meanings of the linguistic choices of organisational leaders. The discourse analysis and thematic or content analysis of a text provides a higher level of the analysis of language use in financial information, by exploring how and why the use of language represents the view of organisational leaders with respect to the organisations they lead, which provides the potential for revealing and understanding the underlying and unstated assumptions (Bligh & Kohles, 2014). It is noteworthy that although CATA provides techniques that can assist in discourse analysis (talk-in-interaction) and content (thematic) analysis of text, nevertheless, the focus of this study is on the interpretive aspects of text provided by content analysis techniques. This would require the interpretive skills of the researcher and subsequently provides a higher level of analysis.

2.16.1 An Overview of Computerised Content Analysis

As a research methodology, CATA provides an investigatory insight into the symbolically rich communications used by organisational leaders in various contexts, making it an invaluable tool for studies on corporate communications in the field of business and management. One of the core reasons for using, in this study, computerised content analysis of text is to assist with the probing of text with much increased depth and subtlety (Bligh & Kohles, 2014). This approach is based on the assumption that the choice of specific words employed by an organisational leader in their financial communications can be particularly revealing of the themes that they intend to convey to users of such information. In their study, Bligh and Robinson (2010) argued that the choice of words by John F. Kennedy to the American citizens during the Cuban Missile Crisis gave a direct reference to the need to change the status quo in the face of opposition. Cited in Bligh and Kohles (2014, p. 146), Kennedy said: "This sudden, clandestine decision to station strategic weapons for the first time outside of Soviet soil is a deliberately provocative and unjustified change in the status quo which cannot be accepted by this country." Accordingly, the content analysis of this statement would potentially provide language cues that are revealing of the vocabulary of change.

In addition, a number of prior studies have engaged the utilisation of the choice of words and phrases to suggest conclusions about the motives or ideas of organisational leaders. In the same vein, linguistic analysis techniques have been used to examine the style of thinking and the emotional states of some individuals (Zullow et al., 1988), as well as the change in their leadership styles in response to a defining occurrence, such as a crisis (Bligh et al., 2004a). In the study by Bligh et al., (2004a), they examine language constructs such as the measure of collectiveness in the speeches of President George W. Bush before and after the terrorist attacks of 11th September, 2001. In their analysis, they found the use of more collective language after the crisis than they did in the speeches prior to the attacks (Bligh & Kohles, 2014). Accordingly, these prior studies suggest that the specific choice of words by the leader of an organisation can be critically revealing of their motives, intentions, and underlying assumptions, with potential for significant effects on measurable outcomes such as credit ratings, market capitalisation, and share price (Bligh & Hess, 2007). In the same vein, this change in the use of language in the face of a defining event is particularly significant in the context of this study for understanding the language features of the CEOs of companies when reporting good or bad financial performance results.

With respect to the advantages and disadvantages of using computerised content analysis for the financial communications of organisational leaders, Bligh and Kohles (2014) provide an overview of some of the benefits and limitations attributable to select language analysis tools. Despite the strengths and weaknesses, Bligh and Kohles (2014) emphasise that CATA remains a highly systematic and reliable

technique, as well as being cost-effective and well-suited for processing large amounts of data. Consequently, it is also well-suited for comparing large numbers and various forms of corporate communications at a relatively micro level of detail. More importantly, the use of CATA techniques can provide an additional alternative when it is either not feasible or too prohibitive to use human coders due to limitations attributable to time or financial resources. In a comparative study on the differences between CATA and human coders, Morris (1994) concluded that there is the likelihood for both methods to be equally effective, however, with the potential for differences in results and conclusions when conducting higher levels of analysis.

Furthermore, he concluded that human coders are more likely to be sensitive to larger contextual cues when analysing text in paragraphs than those provided by CATA. Similarly, the results of comparing between human coders and CATA techniques on the rhetoric of President George W. Bush prior to and after the terrorist attacks of 11th September, 2001 show significant positive correlation for all the constructs examined between the two methods, with the exception of ambivalence. This discrepancy could be because of the operation of CATA at a much more micro-level of detail, a trend human coders may not perceptually recognise. In addition, Bligh et al. (2004b) highlight that the prevailing circumstances (i.e. the prominent role of the American President in the unpopular war In Iraq) surrounding the time of coding could have influenced the minds of the human coders in their ratings of the level of ambivalence in the speeches of the President. Consequently, Bligh and Kohles (2014) recommend that studies that aim to examine the broader, more abstract constructs of language at higher levels may consider the fundamental trade-off between the added reliability, stability, comparability, and cost-effectiveness of CATA and the additional construct validity and subjectivity provided by human coders.

Nonetheless, CATA has been criticised on the grounds of separating words from their initial context, a point that necessitates applying caution in its use (Bligh & Kohles, 2014). Similarly, Bligh and Robinson (2010) point out the need to pay attention to challenges attributable to potential loss of translation in the use of computerised content analysis. It is possible to lose the representation and colloquial forms of important constructs due to cross-cultural translation of certain words. In view of this, texts must be carefully reviewed before processing them using computerised text analysis tools, so as to preserve their localised meanings. In the same vein, this need to retain the colloquial forms of words is applicable to the process of converting words in British English into either Old English or American English. In sum, there are various software packages that can be used for computerised text analysis, including those needed for "qualitative data input, data management, data coding, analysis, visualization, text mining, and archiving" (Bligh & Kohles, 2014, p. 148). With respect to data input, the software packages available for this use assist with creating text files from files in print or audio format. Software packages for data

management assist with organising text from different formats such as Adobe pdf, image, Microsoft Word, or video documents. In addition, certain software packages assist with the coding of certain aspects of text, image, or video files to categorise their contents for subsequent analysis. With respect to data visualisation, the software packages available for this purpose allows for the visual representation of the data by using network diagrams or other types of images. Lastly, software packages for data archiving assist with organising and compressing data files for the purpose of preserving them for future use (Bligh & Kohles, 2014). It is noteworthy that although these functions are exclusive for some of the software packages, yet, they provide multiple functions that can be found in other computerised text analysis tools.

In summary, this chapter provided a review of literature from various fields of study needed for the construction of testable hypotheses with the view of answering the overarching research question. The next chapter focuses on the discussion of the aims and objectives of this study, the core and supplementary research questions, the research methodology, research methods, and the discussion of the corpora and software tools adopted for this study.

CHAPTER THREE

RESEARCH METHODOLOGY

Following on from the review of relevant literature that provides insights for the approach of this study, this chapter begins with a discussion of the research aims and objectives. It follows with the discussion of the core research question and supplementary research questions. Next is a brief discussion on how the theory adopted for this study influences the development of the research hypotheses tested in this study. Thereafter, various research philosophies are discussed with the justification of the specific philosophy adopted for this study. Subsequently, the research methodology and research methods are discussed. This chapter concludes with the discussion of the corpora and tools adopted for this study and the processes undertaken in the collection of data and the selection of samples in line with the predefined selection criteria.

3.1 Research Aims and Objectives

In the context of the field of Accounting, one of the increasing areas of research is in the domain of accounting narratives. Historically, the approach towards the research on corporate narratives has been predominantly on individual corporate organisations and their respective communication patterns, without much emphasis on the study of each organisation's corporate financial communications within the context of the industry or institution it is affiliated with. In view of this, this research aims to advance the work on evaluating and contrasting linguistic patterns in corporate financial communications across companies and industries, drawing on insights from research in the areas of institutional theory, institutional logic, isomorphism, and impression management. Accordingly, the proposition of this research is that organisations in different industries are governed by institutionalised logic peculiar to each industry. Based on this logic, industries within institutions become similar over time and communicate in an isomorphic pattern. Therefore, it is possible to ascertain, through the analysis of linguistic patterns among organisations, whether or not an organisation shows the tendency to be deceptive in the manner they communicate with their stakeholders, in a way different from their competitors. The aims of this research therefore are:

- To review the literature in the areas of Institutional theory, Isomorphism and Legitimacy, Impression Management, Deception, Financial Statement Fraud, and Linguistic Analysis.
- To draw and evaluate insights from research in the area of institutional logic in categorising companies according to the discretion afforded to them. In view of this, the literature and empirical studies in the area of industry discretion will be adopted in classifying companies as either belonging to a high discretion industry or a low discretion industry.

- With the literature and extant theory on psycholinguistics, to overlay the conceptual frameworks and develop hypotheses regarding industry-level discretion, especially relating to corporate financial communications during good and bad times and deception detection in corporate accounting narratives.
- To derive thematic tests to inform future professional practice in the areas of audit and corporate governance.

3.2 Research Questions

The study reported in this work is an analysis of the linguistic features of the Chief Executive Officers (CEOs) of companies across various industries, with the overarching aim of ascertaining whether they differ from their competitors within the same industry classification. This overarching question was structured in different phases of research questions.

First, by drawing and evaluating insight from research in the area of managerial discretion studies predominantly conducted in the United States of America (USA), this research aims to test whether the predictive model for measuring overall industry discretion can be adopted, replicated, tested, and validated for companies in the United Kingdom (UK). The first phase of question is to test whether the predictive model can be used to classify companies as either belonging to the high discretion industry or low discretion industry, in line with the results presented for the US industries (Abrahamson & Hambrick, 1997; Hambrick & Abrahamson, 1995; McClelland et al. 2010).

Consequent on the outcome of the first research question, the second question focused on testing whether the extant theory on psycholinguistics and linguistic analysis techniques provide indicators for differentiating the linguistic features of companies in the high discretion industry from the linguistic features of companies in the low discretion industry, using testable hypotheses.

Third, consequent on the outcome of the second research question, the third question focused on assessing the linguistic features of each industry classification during favourable and unfavourable financial performance periods. Accordingly, the third question focused on understanding how the companies in each industry classification use language in communicating their financial performance results during favourable and unfavourable periods.

3.3 Construction of Theory

In this study, the overarching research approach is to adopt the various understandings from institutional theory sources from which organisational behaviour is structured. From the literature considered, it is evident, from the perspective of institutional theory, that there are two sources that influence the behaviour of organisations – from within the firm itself and its external environment. In addition, the theory

on isomorphism posits that firms regulated by the same or similar institutional logic are expected to behave in similar ways when confronted by a stimulus from the external environment. Consequently, the theory on institutional logic, which further explains isomorphism, is based on the theoretical foundation that there are various organisational fields and that different organisational fields are regulated by differing institutional logic. Specifically, institutional logic provides explanation to the thought that different organisations within the same industry classification will be regulated by a similar logic, which will be different from the institutional logic that regulates firms in an entirely different industry classification. Accordingly, as different organisational fields are regulated by different institutional logics, it is expected that the responses of the firms within the same industry classification to an external stimulus will be isomorphic, albeit, different from the responses of the firms in a different organisational field or industry classification. The nature of the responses of organisations, regardless of the organisational field to which they belong, is manifest in different ways including their communication, reporting, or linguistic pattern.

Accordingly, with the theoretical underpinning that similar organisations act in similar ways, including their use of language, and thereby, as suggested in this research their use of language will be determined by logic regulating the industries to which they belong. Therefore, the deviation by any member organisation within an industry classification from the central logic of its defining organisational field could be as a result of innovation, one-off responses to isolated events, or potential deception. Furthermore, based on the understanding that organisations within the same organisational field act in similar ways, different from those in another organisational field, the overarching standpoint of this study proposes that the differences will be manifest in their use of language to communicate the performance levels of their firms. In view of this, this study proposes that with the level of discretion available in any industry, it impacts the performance indices and the mode of communication adopted by the member organisations in a given industry.

For this purpose, this study adopts the perspective of the liberty afforded to organisations in their quest to use industry discretion in directing the affairs of an organisation. This discretion or latitude of action, this study proposes, influences how aggressive or conservative their performance indices are, which expectedly will be manifest in their choice of reporting language. Therefore, this study focuses on categorising select industries as either aggressive/hard or conservative/soft with respect to financial communications. Accordingly, this study adds a layer to prior research conducted on industry discretion by equating aggressive or hard financial communications with a high level of discretion within an industry, while associating conservative or soft financial communications with low level of discretion prevalent in an industry. Consequent to this proposition, it is imperative to distinguish between the categorisation of

industries as having either aggressive/hard or conservative/soft financial communication style, through a review of the literature and relevant empirical findings on the effect of discretion.

3.3.1 Implication of Discretion on Research Hypotheses Development

In this study, the aim is to create a clear dichotomy between the financial communications of companies in the high and low discretion industries, with potential for investigating differentiated signals to deceptive financial reporting. In order to do this, this study adopts the insights on discretion to classify some organisations as belonging to the high discretion industry category, while on the other hand, classifies some organisations as belonging to the low discretion industry. Prior research provides the insight that the discretion afforded to an industry is enabled or constrained based on the extent to which each discretion force exists. Furthermore, Miller et al. (1982) affirmed that in industries where the CEOs have an internal locus of control, there will be greater pursuit of innovation and greater risky decisions, while organisations are more likely to imitate and create a sense of community/identity with competitors in industries where the locus of control is from the external environment. Consequently, it is possible to understand the dynamics within an individual or organisation through their choice of words (Bligh & Kohles, 2014; Craig et al., 2013). In view of this, this study proposes that in industries dominated by aggressive innovation, with the CEOs having internal locus of control, the financial communication style adopted in those industries will be revealing of the semantics that signal aggressive, unclear and complex financial communications. On the other hand, in industries dominated by conservative followership with the external environment claiming the locus of control, the financial communication style adopted in those industries will be revealing of the semantics that signal conservative and clearly understood financial communications. For the purpose of this research the organisations with internal locus of control are equated as belonging to the high discretion industry, while those with external locus of control are equated as belonging to the low discretion industry.

3.4 Research Philosophy

Undertaking a research study requires the conscious or unconscious adoption of a number of types of assumption (Burrell & Morgan, 1979). This entails assumptions about human knowledge (epistemological assumptions), those concerning realities encountered while conducting a research study (ontological assumptions), and the degree to which the values of a researcher influence a research process (axiological assumptions). As a result, these assumptions inevitably influence the understanding of the research questions, the selection of research methods and the interpretation of research findings (Crotty, 1998). Accordingly, the focus of this section is to outline the philosophical choices made for this study and to justify their adoption rather than available alternatives. In addition, it outlines the selected research methodology and data collection techniques.

In order to distinguish between the philosophical choices selected for this study and alternative research philosophies, consideration was given to the differences in assumptions that underpin individual philosophies. Accordingly, three types of research assumptions were considered for this study and they are with respect to ontology, epistemology, and axiology. According to Saunders et al. (2016), ontology refers to a set of "assumptions about the nature of reality" (p.127). These assumptions shaped the way in which the objects of study within this research were evaluated. In the context of this study, the ontological assumption was that the selection of actions by an organisation cannot be solely attributable to the principle of rational choice, but rather that, every organisation derives meanings and actions from the logic that regulates the institution to which each belongs. This study argues that this logic has impact on the conduct of organisations within an industry category, and their responses to this logic can be evaluated in the context of their financial communications. Consequently, the actions and specifically the financial communications of organisations should be evaluated from the perspective of the vocabulary and linguistics used in the industry to which they belong, rather than conclude that each organisation rationally selects its own vocabulary without considering the language used in the industry to which it belongs. This ontological assumption influenced the decision to evaluate the financial communications of organisations in the context of institutional theory.

With respect to epistemological assumptions, this focuses on assumptions made about knowledge, what constitutes knowledge that is acceptable, valid, and legitimate, and how such knowledge can be communicated to others (Burrell & Morgan, 1979). In the context of business and management, the multidisciplinary nature of this field of study means that various forms of knowledge including those derived from numerical data to textual data and visual data, from empirical facts to subjective interpretations, and including narratives, stories and fictional accounts can all be considered legitimate (Saunders et al. 2016, p. 127). Consequently, different business and management research studies would require different epistemologies including those based on narratives (Gabriel, Gray, & Goregaokar, 2013). Accordingly, the availability of a multiplicity of research philosophies in this field makes available a much greater choice of methods than are available in other academic disciplines.

Nevertheless, this has implications for diverse strengths and weaknesses attributable to the multiple philosophical assumptions that underpin business and management research. For example, the assumption of positivists is that objective facts offer the best scientific evidence and is likely to influence the choice of quantitative research methods. The subsequent research findings drawn from quantitative research methods have a higher likelihood to be considered as objective and generalisable than those from qualitative research methods (Saunders et al. 2016). On the other hand, qualitative research findings generated from interpretivist assumptions offer a rich and complex view of organisational realities, which,

otherwise, would have been crunched in numbers as in the case of quantitative methods under positivist assumptions. In the context of this study, the epistemological assumption considered legitimate for this research is in the realm of interpretivism due to need to understand the richness of the textual information provided in the financial communications of organisations.

Lastly, axiological assumptions relate to the impact of researcher values and ethics in the research process (Saunders et al. 2016, p. 128). Heron (1996) argues that human action is guided by individual values. Furthermore, he argues that there is the demonstration of axiological skill by researchers in being able to articulate their views as the basis for making judgements on both the selection and conduct of research projects. The choice of research philosophy reflects the values of the researcher. This also becomes manifest in the choice of data collection techniques (Saunders et al. 2016). In the context of this study, one of the core values held by the researcher is that information is a powerful tool in the business community, especially in capital markets. It is very important for as much information as possible to be provided to users of financial information so they are able to make informed economic decisions. Furthermore, such information should not be too complex for stakeholders to read and understand, as their investments decisions will be properly guided with clear and concise financial information.

As aforementioned, the field of business and management draws philosophical assumptions from multidisciplinary fields of study. Although this offers a wide range of philosophical and methodological choices, it also implies that business and management research philosophies are spread across a multidimensional set of continua (Niglas, 2010) between two opposing extremes of objectivism and subjectivism (Saunders et al. 2016, p. 128).

3.4.1 Objectivism versus Subjectivism

The viewpoint of objectivists is that social and physical phenomena exist in an independent way, with universal and enduring traits. In view of this, it is plausible to approach their study in the same way as natural scientists would study nature (Saunders et al. 2016). Epistemologically, the approach of objectivists towards research is to unravel the truth about the social world, through the instrumentality of observable, measurable facts, towards making generalisations about the universal social reality. With respect to axiological assumptions, since the premise is that social actors and social entities exist independently, the guiding principle of objectivists is to separate their personal values from their research activity, which they argue, could create bias in their findings. They therefore strive to detach themselves from their values and beliefs throughout the process of research (Saunders et al. 2016).

In contrast, subjectivism posits that social reality is derived from the perceptions and consequent actions of individuals or social actors. From the perspective of ontology, subjectivism embraces nominalism. In

its highest form, nominalism considers that through the use of language, conceptual categories, perceptions, and consequent actions, the order and structures of social phenomena are created through studies conducted by researchers (Saunders et al. 2016, p. 130). Nominalists hold that there is no other underlying reality to the social world than what social actors attribute to it. Accordingly, it would be reasonable to consider multiple realities rather than a single reality that is the same for everyone due to the differences in individual experiences and diversities in the perception of reality (Burrell & Morgan, 1979). From another perspective, a less extreme version of Nominalism is known as Social Constructionism. This emphasises that the construction of reality is facilitated as social actors engage in social interaction, which results in the creation of partially shared meanings and realities. In contrast to the underlying assumption of objectivists who seek to unravel universal facts and general rules governing social behaviour, subjectivists aim to explore and understand various opinions and narratives that can provide explanation for different social realities of social actors (Saunders et al. 2016). It is the position of subjectivists that it is somewhat impossible to detach personal beliefs and values in the course of actively interpreting social data (Saunders et al. 2016), a condition that calls for a researcher to engage in radical reflexivity (Cunliffe, 2003).

In the context of this study, the underlying standpoint is that organisations create their own meanings and realities through social interactions within the industry they are affiliated to. This study argues that there is no set of rules that can be applied universally to all organisations in the corporate world and that the responses of each organisation are expected to align to the rules or logic that regulates the specific institution they belong to. As a result, individual organisations either create their own logic and rules or respond to a logic set by an external institution. On the one hand, some organisations respond to meanings and realities out of the externally-created logic that regulates the institution to which each belongs. On the other hand, some organisations are either so powerful or have greater latitude of action to create their own meanings and realities. This study takes the subjectivist position to seek to understand the different meanings and realities of corporate organisations, in order to make meaningful sense of and understand their motives, actions, and intentions. Furthermore, it posits that the meanings and realities of these corporate organisations are produced through interactions among participants within their affiliate institutions.

It is noteworthy that with different philosophical assumptions are certain research paradigms that cannot be overemphasised. In the course of differentiating and selecting between appropriate research philosophies for research undertakings, researchers engage with certain political or ideological orientations while investigating the social world (Saunders et al. 2016). Similar to the dichotomy of the objectivism-subjectivism dimension, this political or ideological dimension is subdivided into two opposing

extremes. Burrell and Morgan (1979) term these two extremes as the 'sociology of regulation' and 'sociology of radical change' (cited in Saunders et al. 2016, p. 132). On the one hand, the regulative perspective emphasises the need for the regulation of social institutions and social actors. It assumes an underlying cohesiveness and unity of social structures and social systems, a dominant perspective in much of research in the field of business and management (Saunders et al. 2016). Accordingly, the rationale for adopting a regulative perspective in any business and management research is to seek to propose improvements in the affairs of organisations within the framework of an existing mode of operation, rather than radically challenge the current position. On the other hand, the radical change perspective aims to fundamentally question the existing mode of operation in organisations, and through research, offer insights that would help change organisational and social worlds (Saunders et al. 2016). In view of this, a radical change researcher seeks to approach research from the viewpoint of overturning an existing organisational state of affairs, a position that is often considered as visionary and utopian, which is concerned with what is possible as alternatives to an existing mode of operation (Burrell & Morgan, 1979). In the context of this study, both perspectives were considered in recommending the regulation of certain aspects of the mode of communication of organisations whilst also proposing radical change in other operational areas.

In their book *Sociological Paradigms and Organisational Analysis,* Burrell and Morgan (1979) create the combination of the objective-subjective continuum with a regulation-radical change continuum, to form a matrix of four distinct and competing paradigms of organisational analysis (Saunders et al. 2016, p. 132). As explained by Burrell and Morgan (1979), a paradigm is a set of underlying and taken-for-granted assumptions, a basis for establishing the frame of reference, mode of theorising and modalities of working in which a group operates (Saunders et al. 2016). Of particular interest to this study are two competing paradigms – the functionalist paradigm and the interpretive paradigm. The functionalist paradigm stems from the objectivist and regulation dimensions, and is mostly used in business and management research. The underlying rationale of this paradigm is one that seeks to offer rational explanations and develop sets of recommendations within existing structures. A key assumption of this research paradigm is to consider organisations as "rational entities, in which rational explanations offer solutions to rational problems" (Saunders et al. 2016, p. 134). For example, a study based on the functionalist paradigm could focus on evaluating the financial communication strategies of an organisation, to assess its impact and make recommendations for improvement. Any study in this dimension is most likely to be based on a positivist research philosophy, an approach referred to as positivist-functionalist (Saunders et al. 2016).

On the other hand is the interpretive paradigm, an extension to the interpretivism research philosophy. It focuses on the way individuals seek to make meaning of the social world, an attempt to understand the

fundamental meanings attached to organisational life. Furthermore, the interpretive paradigm seeks to discover irrationalities in organisational behaviour, rather than emphasising the rationality of actions. Similar to the illustration above, a study based on the interpretive paradigm could focus on evaluating the financial communications of an organisation, to assess especially its bad performance through cues provided in its corporate reports which may not be apparent to the users of the financial information. This is likely to lead to studying organisational politics and the way in which corporate organisations are managed. This perspective focuses on becoming involved in understanding the everyday activities of corporate organisations and to explain what is going on rather than changing the current position (Kelemen & Rumens, 2008). Accordingly, this study primarily adopts the interpretive paradigm with the aim of evaluating the financial communications of corporate organisations, to understand the certain linguistic markers which provide insights on what is going on in such organisations rather than changing their current position. This is further informed by reviewing some of the major philosophies in business and management research.

3.5 Major Research Philosophies

This section reviews three of the major philosophies used in business and management research: positivism, pragmatism, and interpretivism (Saunders et al. 2016, p. 135). Table 3.1 shows the comparison of the three research philosophies reviewed for this study.

Table 3.1 Comparison of three research philosophies in business and management research

Ontology	Epistemology	Axiology	Typical Methods
Positivism			
Real, external, independent One true reality (universalism) Granular (things) Ordered	Scientific method Observable and measurable facts Law-like generalisations Numbers Causal explanation and prediction as contribution	Value-free research Researcher is detached, neutral and independent of what is researched Researcher maintains objective stance	Typically Deductive highly structured, large samples, measurement. typically quantitative methods of analysis, but a range of data can be analysed
Pragmatism			
Complex, rich, external 'Reality' is the practical consequences of ideas Flux of processes, experiences and practices	Practical meaning of knowledge in specific contexts 'True' theories and knowledge are those that enable successful action Focus on problems, practices and relevance Problem solving and informed future practice as contribution	Value-driven research Research initiated and sustained by researcher's doubts and beliefs Researcher reflexive	Following research problem and research question Range of Methods: Mixed, Multiple, etc Emphasis on practical solutions and outcomes
Interpretivism			
Complex, rich Socially constructed through culture and language Multiple meanings, interpretations, realities Flux of processes, experiences, practices	Theories and concepts too simplistic Focus on narratives, stories, perceptions and interpretations New understandings and worldviews as contribution	Value-bound research Researchers are part of what is researched, subjective Researcher interpretations key to contribution Researcher reflexive	Typically inductive. Small samples, in-depth investigations, qualitative methods of analysis, but a range of data can be interpreted

Extracted from Saunders et al. 2016, p. 136.

3.5.1 Positivism

This philosophical assumption is based on producing strictly scientific empirical methods designed to yield pure data and facts without being influenced by researcher bias and human interpretation as shown in Table 3.1. To adopt a positivist position would mean viewing organisations and other social entities as tangible in the same manner as physical objects and natural phenomena are tangible. From an epistemological perspective, the aim would be to discover observable and measurable facts and regularities to produce credible and meaningful data (Crotty, 1998). According to Gill and Johnson (2010), this would entail seeking causal relationships in research data and to produce law-like generalisations similar to those created by natural scientists. This can be used to explain and predict behaviour and events in organisations (Saunders et al. 2016).

The different fields in the natural sciences have developed from the understanding of the world beginning with the collection of data followed by making observations prior to the formulation and testing of hypotheses. Subsequently, the development of hypotheses leads to the gathering of facts rather than subjective interpretations which would provide the foundation for subsequent hypothesis testing. In addition, positivists strive to maintain neutrality and detach themselves from their beliefs and values so as to avoid influencing their research findings (Crotty, 1998). This is a plausible standpoint for positivists as they deal with measurable and quantifiable data. In sum, to facilitate replication, there is the likelihood for positivist researchers to use a highly structured methodology (Gill & Johnson, 2010).

3.5.2 Pragmatism

According to Kelemen and Rumens (2008), the philosophical assumption of Pragmatism asserts that the relevance of research concepts is a function of their ability to support action. The rationale of Pragmatism is to strive to create reconciliation between the philosophical positions of objectivism and subjectivism, facts and values, knowledge created from accurate and rigorous procedures, and different contextualised experiences (Saunders et al. 2016). This is attained by giving consideration to theories, ideas, concepts, testable hypotheses, and research findings, not in an abstract manner, but rather from the perspective of their functionality as instruments of imagination and action, and in terms of their practical implications in specific contexts. Ontologically, reality is of great importance to pragmatists due to the fact that the practical implications of ideas, and knowledge is valued for successfully conducting enabling actions.

This reflexive process of inquiry into research is driven by the values of the researcher, which is initiated by creating a sense of doubt and a feeling that something is not right or out of place, and which helps in having the basis for the formulation of belief when the problem becomes resolved (Elkjaer & Simpson, 2011; Saunders et al. 2016). In sum, the philosophical position of pragmatism is the recognition of

different ways of interpreting the world while conducting research rather than having a single and universal way of viewing it, thereby focusing on the possibility of having multiple realities. However, this does not mean that multiple research methods are used by pragmatists, rather they adopt any method or methods that enable the collection of credible, well-founded, reliable, and relevant data that advance research practice (Kelemen & Rumens, 2008).

3.5.3 Interpretivism

The research focus of interpretivists is to study the meanings created by social actors about their social world. Interpretivism is formed from different strands, most notably hermeneutics, phenomenology, and symbolic interactionism (Crotty, 1998; Saunders et al. 2016, p. 140). Rather than emulating the research approach of natural sciences in the study of the physical world, Interpretivism argues that social actors and their social worlds should be studied from the perspective of social sciences and in their own contexts. As different social actors from different cultural backgrounds, under diverse circumstances and at varying times construct different meanings, creating and experiencing different social realities, interpretivists become critical of attempts by positivists to discover definite, universal rules that apply to all social actors (Saunders et al. 2016, p. 140). Accordingly, the standpoint of interpretivists is that deep insights and rich meanings in the behaviour of social actors are lost if the complexity in such behaviour is reduced totally to a series of universal laws.

In view of this, interpretivist research aims at creating new, richer insights and interpretations of social worlds and contexts (Saunders et al. 2016, p.140). For research practice in the field of business and management, this entails studying organisations from the perspectives of different groups of social actors. In the context of corporate organisations, interpretivists would argue that the manner in which the CEOs of these corporate organisations see and experience the business world are different, to the extent that they can be considered as experiencing different business realities. If research practice focuses on generalising the experiences that are common to all at all times, without giving consideration for experiences that are specific to individual organisations, much of the richness of the differences between them and their specific circumstances will be lost, and the view of the organisation that the study delivers will reflect this (Saunders et al. 2016, pp. 140-141). Furthermore, the complexity in organisational differences are not simply limited to different functions in organisations. The CEOs of different organisations from different ethnic and cultural backgrounds may experience their organisations in different ways, therefore it would be inadequate to interpret what appears on the surface to be the same thing, rather such interpretation ought to be based in specific contexts.

In sum, interpretivists strive to take consideration for this complexity by collecting data on what constitutes meanings in the context specific to organisations. For phenomenologists, the focus is to study the lived experiences of social actors facilitated through the recollection and interpretation of those experiences (Saunders et al. 2016). On the side of hermeneutics, the focus is to study cultural artefacts such as texts, images, stories, symbols, among others, while symbolic interactionists consider meaning as a phenomenon that emerges from social interactions among people with focus on the observation and analysis of those interactions such as conversations (Saunders et al. 2016, p. 141). The emphasis of interpretivists is on the significance of language, culture, and history in the creation of realities and meanings (Crotty, 1998), which shapes the understanding, interpretations, and experiences of organisational and social worlds (Saunders et al. 2016, p. 141). With this focus on the complexity in organisations, the richness of their multiple interpretations, the processes involved in meaning-making, the philosophical assumption of interpretivism is explicitly subjectivist (Saunders et al. 2016). Axiologically, it implies that there is the recognition of the possibility for the values and beliefs of an interpretivist to play an important role in the interpretation of research materials and data.

In the context of this study, the philosophical position of interpretivists was adopted. The position of this research is that corporate organisations emanate or belong to different institutional worlds. These corporate organisations are managed by different corporate actors from different cultural backgrounds, operating under different circumstances, at different times and making different meanings. Thereby, creating and experiencing different business realities which become manifest in their financial communications. In view of this, corporate organisations and the institutions to which they belong should not be studied as the physical world where law-like generalisations are applied to all corporate actors and actions. Furthermore, this study holds that universal rules alone do not regulate the behaviour of corporate organisations, rather, they also respond to rules and meanings or the logic created in the context of the institution to which they belong. Hence, in order to not lose the complexity in the meanings created by corporate organisations, this study argues that it is meaningful to assess and understand these realities and meanings in the context of the institution to which each corporate organisation is classified or affiliated to, rather than generate universal procedures for evaluating their business realities, in this case the realities embedded in their financial communications. In addition, of importance to this study is the consideration of appropriate research methodology.

3.6 Research Methodology

There are many different methodologies used in social sciences. Building on the research philosophy adopted for this study– interpretivism, this study reviewed competing research methodologies prior to selecting one. Of the many research methodologies available (Quinlan, Babin, Carr, Griffin, & Zikmund,

2015, pp. 144-150), this study reviewed the following methodologies: narrative analysis, discourse analysis, and content analysis. With respect to narrative analysis, this methodology is used when the research focus is on gathering and analysing narratives (Quinlan et al., 2015). The data gathered from narratives and analysed are usually in the form of accounts of personal experiences that a researcher obtains from an individual that lived such experiences. This approach is used in a two-way communication setting such as in interviews and the analyses of data derived from consumers on marketing and consumer behaviour. Narrative analysis can be used in the analysis of textual data, in written or visual text (Quinlan et al., 2015). A core underlying principle of this methodology is the analysis of narratives told to the researcher by the person who has had the experience. In the context of this study, this methodology is inappropriate as the texts analysed are secondary data obtained from credible sources – company websites and Bloomberg Data sources. Accordingly, the researcher had no influence on the structuring of the questions or moderating the interview sessions that produced the data collected and analysed.

With respect to discourse analysis, this methodology facilitates the identification and analysis of discourses in the social world (Quinlan et al., 2015). According to Fairclough (1995), the discourses gathered as data can be in different formats such as written texts, oral statements, or cultural artefacts. To some extent, discourse analysis is appropriate in the context of this study, however, it provides lesser coverage for all the data and analysis structures than those provided by content analysis. In the context of this study, discourse analysis did not provide coverage for a mixed method approach adopted for this study. With respect to content analysis, this research methodology is used in the analysis of the content of any text. It can be used to evaluate the tone of a text, including both the explicit and latent content of texts (Quinlan et al., 2015, p. 148). Furthermore, this methodology can be used when analysing the frequency of specific words, or phrases, or ideas or concepts as they appear in the text being analysed. This can entail the analysis of the placement of words within the text of specific aspects and elements of the communication (Quinlan et al., 2015). In addition, this methodology is useful in examining the strength of the communication, through the emphasis placed on certain aspects of the communication. The texts analysed can be in the form of documents from websites, transcripts from interviews or transcripts of speeches, conversations, conference calls, among others. Although content analysis is traditionally a quantitative methodology, it can draw on either quantitative or qualitative data, or on a mixture of both (Quinlan et al., 2015, p. 148). Accordingly, the robustness of this methodology for a mixed method analysis justifies its appropriateness for this study.

3.7 Research Methods

A mixed methods approach was adopted for this research. From the aforementioned structure of the research questions, data on companies that met the pre-selection criteria were collected and analysed using appropriate statistical tools towards validating the predictive model for measuring overall industry discretion score obtained from the analysis of US companies with those tested for UK companies. Furthermore, much emphasis was placed on the qualitative analysis of data on accounting narratives using various analysis tools provided in Microsoft Office, DICTION 7.0 text analysis software, Linguistic Inquiry and Word Count (LIWC) software package, and International Business Machines (IBM) Statistical Package for Social Sciences (SPSS) Statistics. In addition, in order to ensure robust analyses of the data, effort was made to investigate the language features of the companies in each industry classification, for further quantitative analysis of the qualitative data. At all levels of analysis, independent samples testing of statistical significance was conducted. While a paired t-test is suitable for comparative or matched samples, independent t-test of statistical significance is fit for contrastive purposes (McNamara et al. 2014). Specifically, Kruskal-Wallis independent non-parametric t-test of statistical significance was adopted at all levels. The rationale for conducting this type of t-test was due to the research objective of contrasting between the financial communications of companies in the high and low discretion industries.

Accordingly, this study adopted and tested for all the five Master Variables of DICITON 7.0 text analysis software towards assessing the language features of the companies in both the high and low discretion industries. In addition, the sub-features of each of the five Master Variables were analysed across the two industry classifications for the purpose of collecting the sub-features that show significant statistical results in line with stated hypotheses. In order to gain internal validity for the use of DICTION 7.0, a complementary text analysis software, Linguistic Inquiry and Word Count (LIWC), was selected to obtain the language features that compare with those of DICTION 7.0. This was done to assess whether or not the results obtained can be tested for validity and reliability regardless of the text analysis software paradigm chosen. Finally, non-parametric testing of statistical significance was conducted to differentiate the results obtained for companies in the high discretion industry from those in the low discretion industry. In addition, z-scores were computed to ascertain the deviation of the scores of each industry from the normalised scores established for each text analysis software.

3.8 Discussion of the Software – DICTION 7.0 and Linguistic Inquiry and Word Count (LIWC)

This section focuses on the description of the textual analysis tools adopted for this study with accompanying justification for their inclusion. The rationale for discussing the tools employed for this study was to explain what the tools are; what they do; why they can be trusted; and their appropriateness for this study. Accordingly, the primary textual analysis tool employed for this study is DICTION 7.0.

Validation was provided to ensure that this tool did what it was supposed to do, by providing both intrinsic or internal validity and extrinsic or external validity. In view of this, this study turned to a complementary textual analysis tool known as Linguistic Inquiry and Word Count (LIWC). The rationale for the selection of LIWC was to obtain intrinsic or internal validity for the use of DICTION. Although there is a wide variety of textual analysis tools available in discourse science, LIWC arguably has the most comparable history, availability and breadth of interest to this study. Lastly, this study employed the use of a simple computational tool provided in Microsoft Word towards computing the readability statistics of the documents used in this study. Specifically, the textual analysis measures adopted from Microsoft Word are statistics on Flesch Reading Ease and Flesch-Kincaid Grade Level. In order to obtain extrinsic or external validity for the three textual analysis tools, this study considered the provision of evidence in terms of the widespread use and acceptance of these tools in discourse science and studies on Applied Natural Language Processing (ANLP). The description of these three textual analysis tools, as well as consideration for internal and external validity are explained hereafter.

Recent developments in discourse processing and computational linguistics have made it possible for researchers to develop a wide range of sophisticated and powerful indices (McNamara et al., 2014). These indices have been gathered together in a textual analysis tool called DICTION 7 (Hart & Carroll, 2015), developed by Professor Roderick P. Hart, Professor of Communication and Government at the University of Texas at Austin and Professor Craig E. Carroll, visiting researcher at the Stern School of Business at New York University (Hart & Carroll, 2015, p. 1). DICTION 7 is a scientific method for assessing the tone of a verbal message (Hart & Carroll, 2015, p. 1). It functions by searching a text file for five general lexical features and their thirty-five sub-features from which they are constituted. This is facilitated by searching through a 10,000-word corpus and up to thirty user-generated custom dictionaries purposely built per research objective. Accordingly, the word-lists built into DICTION dictionaries are employed to search a text for language features indicative of certain five Master Variables, which are CERTAINTY, ACTIVITY, OPTIMISM, REALISM, and COMMONALITY. These five Master Variables are composed through the conversion of all subaltern variables to z-scores, combining them by simple addition and subtraction, and then adding a constant of 50 to avoid producing negative numbers (Hart & Carroll, 2015, p. 4). For example, in calculating COMMONALITY, DICTION standardises six variables and then adds or subtracts them ([Centrality + Cooperation + Rapport] – [Diversity + Exclusion + Liberation]), adds a constant of 50, and then gives a slight statistical modification by referencing DICTION's normative database. In sum, these five Master Variables provide the most general understanding of a specific text and any study reporting results from DICTION can be directly compared to any other study reporting DICTION results. This makes it more dependable and more useful than other

textual analysis tools reporting raw scores only (Hart & Carroll, 2015). Further detail on DICTION and related published research is given in Appendix 3b. This wide variety and wealth of successful empirical studies provide compelling reason and evidence that DICTION is an ideal tool for assessing the features of text.

Of particular interest to this study are the following Master Variable measures of DICTION 7 – COMMONALITY, CERTAINTY, ACTIVITY, REALISM, and OPTIMISM. More importantly, the core Master Variable that aligns to the research question of this study is COMMONALITY. From the literature considered on Institutional Theory, the standpoint is that an organisation within an industry classification is regulated by the institutional logic predominant in such industry. Consequently, organisations become isomorphic in the way they operate owing to the logic that regulates their activities. In sum, isomorphism is a situation where organisations have similar identity and operate in similar forms. Accordingly, these shared conceptions among organisations manifest in the structuring of symbols – through language, signs, and gestures, and subsequently shape the meanings attributed to objects and activities. The interaction among individuals creates shared meanings, which produces a confined latitude of action by individual organisation, for which the deviation from the shared meanings by any of the individual organisation could signal diverse possibilities such as decoupling from the central logic of its defining industry, major business or corporate reorganisation, or even deception.

However, the common understanding of organisations within an institution could change altogether in the long-run, especially during a major reorganisation or shift in the global economy. Subsequently, the new logic becomes sustained across time and place, continuously transformed in an often rather subtle way and becomes apparent after a considerable period of time (Colyvas & Powell, 2006). Similarly, the level of discretion afforded organisations within an industry could also influence the level of agreement to, or deviation from, their central institutional logic. Accordingly, the rationale for adopting the Master Variable COMMONALITY for this study was the measure it provided, which made it possible to assess the language use of companies within the two industry group classifications that signified agreement to or deviation from the values of their respective industries. Furthermore, the other Master Variables of DICTION 7 were also measured using testable hypotheses.

With respect to Linguistic Inquiry and Word Count (LIWC), it is a textual analysis tool "designed to identify social and psychological phenomena" (McNamara et al. 2014, p. 170). It utilises a wide variety of word lists or dictionaries to produce the percentage of words in a text that can be used as representative of specific psychological categories (McNamara et al. 2014; Pennebaker, Boyd, Jordan, & Blackburn, 2015). The 2015 version of LIWC provides approximately 90 word categories. However, these 90 word

categories are also grouped into broader dimensions. Some of these broader dimensions are linguistic words (e.g., pronouns), psychological processes (e.g., positive emotion, negative emotion), personal concerns (e.g., work, leisure, home), paralinguistic dimensions (e.g., speech disfluencies), time orientations (e.g., past focus, present focus, future focus), cognitive processes (e.g., certainty) drives (e.g., achievement, risk), and punctuations (e.g., comma, period). For example, the dictionary of "personal concerns" consists of lexical terms such as "work", "home", and "money". Given a simple text such as "I work from home to earn some money," LIWC would record a textual value of 37.5 for "personal concerns": (dictionary words/total words) × 100; which is (3/8) × 100 = 37.5.

The LIWC software has the capability to process written or transcribed verbal text stored as a digital, machine-readable file in one of several formats, including plain text, Portable Document Format (PDF), Rich Text Format (RTF), or standard Microsoft Word files (Pennebaker et al. 2015, p. 2). In the course of processing a file, LIWC2015 accesses a single text file, a group of files, or texts within a spreadsheet and processes each sequentially. Once a text processed is analysed, approximately 90 output variables are produced as a single line of data to an output file. This includes the name of the file and word count, "4 summary language variables (analytical thinking, clout, authenticity, and emotional tone), 3 general descriptor categories (words per sentence, percent of target words captured by the dictionary, and percent of words in the text that are longer than six letters), 21 standard linguistic dimensions (e.g., percentage of words in the text that are pronouns, articles, auxiliary verbs, etc.), 41 word categories tapping psychological constructs (e.g., affect, cognition, biological processes, drives), 6 personal concern categories (e.g., work, home, leisure activities), 5 informal language markers (assents, fillers, swear words, netspeak), and 12 punctuation categories (periods, commas, etc.." (Pennebaker et al. 2015, p. 2).

Notably and in sum, the core element of the text analysis strategy of this software is the LIWC2015 Dictionary. This Dictionary is composed of approximately 6,400 words, select emoticons, and word stems. Each dictionary input additionally specifies one or more word categories or subdictionaries (Pennebaker et al. 2015). In addition to the instance aforementioned on the dictionary of "personal concerns", the word "cried" is a constituent of five word categories: sadness, overall affect, negative emotion, past focus, and verbs (Pennebaker et al. 2015, pp. 4-5). Therefore, once the word "cried" is discovered in a given target text, the scale scores for each of the subdictionary elements is incremented. Furthermore, a lot of the LIWC2015 categories are listed hierarchically. For instance, all words implying "sadness", by definition, are constituents of a broader "negative emotion" category, as well as the "overall affect words" category (Pennebaker et al. 2015, p. 2). With respect to words such as "hungry" the dictionary includes the stem "hungr*", which allows the inclusion of any target word that matches the first five letters to be counted as

an ingestion word (including hungry, hungrier, hungriest). Hence, the asterisk specifies the acceptance of all letters, hyphens, or numbers following its appearance (Pennebaker et al. 2015).

Similar to other textual analysis tools like DICTION 7, LIWC2015 operates on a variety of norms used in processing a text file within different contexts. Specifically, LIWC2015 has six different norms for processing a text file. The norms are Blogs, Expressive Writing, Novels, Natural Speech, New York (NY) Times, and Twitter (Pennebaker et al. 2015, p. 9). For the purpose of this study, no specific norm was solely adopted. The reason for this is that, "LIWC2015 version captures, on average, 86 percent of the words people use in writing and speech" (Pennebaker et al. 2015, p. 10). None of the norms aligned exclusively to the corpora used in this study – annual reports and analysts' discussions. Accordingly, the Grand Means and Mean Standard Deviations were adopted as the separate categories are really quite divergent from either CEO Letters or Analyst Meetings genres. The Grand Means and Mean Standard Deviations enabled some comparisons to be drawn across the different norms. In addition, the inclusion of the Standard Deviation of the Grand Means enabled the testing for whether text data results of this study were within the range of one or two Standard Deviations. Further detail on LIWC software and related published research is given in Appendix 3a.

Of particular interest to this study are the following measures of LIWC2015 – Tone, First Person Singular Pronoun, First Person Plural Pronoun, Positive Emotion, Negative Emotion, Certainty, Achievement, Risk, Past Focus, Present Focus, and Motion. These 11 language categories of LIWC2015 were selected as they aligned, by definition, to some of the sub-features of the five Master Variables of DICTION 7. The rationale for their selection was to provide validity for the sub-features of DICTION that aligned to those of LIWC2015. For example, the results for the use of 'Certainty' language category of LIWC2015 by companies in the two industry groupings were compared with those provided by the CERTAINTY Master Variable of DICTION. This was conducted to check whether the two similar measures across the two textual analysis tools provided similar results for reliability and validity purposes.

With respect to Flesch Reading Ease and Flesch-Kincaid Readability Grade, they are readability measures used in discourse science in assessing how easy or difficult it is to understand a textual information (McNamara et al. 2014, p. 13; Klare, 1974-1975). With respect to Flesch Reading Ease, it is a statistical formula developed by Rudolph Flesch in 1943 as an objective measurement of readability or comprehension difficulty (Flesch, 1948). The formula was based on a count of three elements of language namely average sentence length in words, number of affixes, and number of references to people (Flesch 1948, p. 221). It uses a rating scale ranging from 0 to 100 as shown in the Table 3.2. The internal validity of Flesch Reading Ease has been established in five independent studies. The formula ratings of

textbooks in psychology agreed substantially with ratings provided by students and teachers (Stevens & Stone, 1947); the formula scores of specially edited radio news, newsmagazine, and Sunday news-summary copy were found to be more readable than comparable newspaper reports (Foreign News, cited in Flesch, 1948); advertisements were rated to be more readable by the Flesch formula, and also showed higher readership figures (Flesch, 1947); and simplified articles with the aid of the formula resulted in increased readership in two consecutive split-run tests (Murphy, 1947, Murphy & Stone, 1947). With respect to its external validity, this measurement has been applied in several studies and in the development of Coh-Metrix (McNamara et al. 2014).

With respect to Flesch-Kincaid Readability Grade, it is a metric based on the word length and sentence length (McNamara et al., 2014). A metric used in assessing the level of education that would be required to read and understand a piece of textual information. The grade level increases as the words and sentences increase in length (McNamara et al., 2014, p. 13). Therefore, the grade level that would be required to read and understand a piece of text increases as the words and sentences used in a text increase in size. This is reasonably psychological as longer words tend to be less frequently used in the English Language, such that readers have less worldly knowledge about these words. Consequently, longer words and longer sentences tend to place a greater cognitive demand on the working memory of a reader, hence, increasing comprehension difficulty (McNamara et al., 2014). As with Flesch Reading Ease, the internal validity of Flesch-Kincaid Readability Grade has been established in Coh-Metrix text analysis tool in McNamara et al. (2014). Notably, the Flesch Reading Ease and Flesch-Kincaid Readability Grade Levels have an inverse relationship as shown in Table 3.3. The higher the Reading ease score of a text, the lower the grade level or level of education it would be required to understand the same text. It follows that the level of education that would be required to understand a piece of text increases as the Reading ease score reduces.

Table 3.2 Pattern of "Reading Ease" Scores

"Reading Ease" Score	Description of Style	Typical Magazine	Syllables per 100 Words	Average Sentence Length in Words
0 to 30	Very Difficult	Scientific	192 or more	29 or more
30 to 50	Difficult	Academic	167	25
50 to 60	Fairly Difficult	Quality	155	21
60 to 70	Standard	Digests	147	17
70 to 80	Fairly Easy	Slick-fiction	139	14
80 to 90	Easy	Pulp-fiction	131	11
90 to 100	Very Easy	Comics	123 or less	8 or less

Source: Flesch (1948, p. 230).

Table 3.3 Flesch Reading Ease and Flesch-Kincaid Readability Grade Levels

Score	School level	Notes
100.0-90.0	5th Grade	Very easy to read. Easily understood by an average 11-year-old student.
90.0-80.0	6th Grade	Easy to read. Conversational English for consumers.
80.0-70.0	7th Grade	Fairly easy to read.
70.0-60.0	8th & 9th Grade	Plain English. Easily understood by 13- to 15-year-old students.
60.0-50.0	10th to 12th Grade	Fairly difficult to read.`
50.0-30.0	College	Difficult to read.
30.0-0.0	College Graduate	Very difficult to read. Best understood by university graduates.

Extracted from Klare (1974-75).

Of particular importance to this study are the readability statistics provided in Microsoft Word. This Microsoft tool provided readability statistics on Flesch Reading Ease and Flesch-Kincaid Readability Grade Level for the documents used in the study. All the annual reports and analysts' discussions of companies in both high and low discretion industries were assessed for their readability statistics using the Microsoft Word proofreading tool.

3.9 Data Collection and Sample Selection

For the purpose of this study, there were three phases of data collection and sample selection. For the first phase, relevant data were collected for companies that met the selection criteria towards validating the predictive model for calculating the overall industry discretion scores for companies in the UK. As aforementioned, the predictive model adopted and tested for this study was a pioneer model empirically tested in the US for differentiating between high and low discretion industries. Hence, for the purpose of ensuring the reliability and validity of the model in the UK context, relevant data on UK companies were collected and tested. To do this, this study adopted a firm's primary four-digit Standard Industrial

Classification (SIC) code as an identifier of industry affiliation. Accordingly, the overarching aim of testing for the predictive validity of the underlying model was to assess whether the firms registered in the UK environment will have the same or similar levels of discretion as those of their counterparts in the US.

In the context of this study, the classification of firms into high discretion and low discretion industries was based on replicating the selection procedure of companies. The companies were selected using similar four-digit Standard Industrial Classification (SIC) codes used in Hambrick and Abrahamson (1995). It is noteworthy that in the context of this study, some of the SIC codes were not exactly the same as those used in identifying the firms in the USA, nonetheless, they produced similar classification of firms as those in Hambrick and Abrahamson (1995). In view of this, the companies selected for this study were those with SIC codes and in FTSE 350 companies (reported as active only in the focal industry) in the Standard and Poor's Capital IQ database for the period 2012-2016. The rationale for choosing FTSE 350 companies – an index made up of the constituents of the FTSE 100 and FTSE 250 -, is based on the convention that the FTSE 350 Index represents large and mid-cap stocks that are traded on the London Stock Exchange (LSE), which are considered to pass screening for size and liquidity (Russell, 2019). This screening process captured, as Table 3.4 shows, a diverse group, with a combination of young and old, consumer- and industrial- product, manufacturing, and service industries. Accordingly, the data collected for all the companies that met the selection criteria are details on the four objective indicators established in Hambrick and Abrahamson (1995). These indicators were used in establishing a regression equation for measuring industry discretion. This is given as:

$$\textit{Industry discretion} = 4.344 + (0.1209 \times \textit{R\&D Intensity}) + (0.1519 \times \textit{Advertising Intensity}) - (0.004 \times \textit{Capital Intensity}) + (0.0596 \times \textit{Sales Growth Rate}).$$

As stated above, the objective indicators are Research and Development (R&D) Intensity, Advertising Intensity, Capital Intensity, and Market Growth (also known as Annual Sales Growth Rate). Specifically, the relevant data collected for measuring Research and Development (R&D) Intensity were a firm's details on Research and Development Expenses and Sales figures. Accordingly, R&D Intensity was measured as [(R&D Expenses ÷ Sales) × 100]. Second, the relevant data collected for measuring Advertising Intensity were a firm's details on Advertising Expenses and Sales figures. Accordingly, Advertising Intensity was measured as [(Advertising Expenses ÷ Sales) × 100]. Third, the relevant data collected for measuring Capital Intensity were a firm's details on Net Value of Property, Plant, and Equipment (PPE) and Number of Employees. Accordingly, Capital Intensity was measured as [(Net Value of Property, Plant, and Equipment ÷ Number of Employees) × 100]. Lastly, the relevant data collected for measuring Market Growth was Average Annual Sales Growth Rate (reported as a percentage) of

each firm in all the industries. Accordingly, Market Growth was measured as [(Y_1 Sales – Y_0 Sales) ÷ Y_0 Sales]. All data collected for calculating the overall industry discretion score covered the relevant periods 2012-2016. Specifically, the number of companies in the low discretion industry that met the predefined selection criteria was 37, while there were 49 companies in the high discretion industry. Consequently, the average number of Standard and Poor's Capital IQ firms in either high or low discretion industry was 43.

Table 3.4 Details on Standard Industrial Classification (SIC) Code per Industry.

SIC Code	Industry	Hambrick & Abrahamson (1995)	Abrahamson & Hambrick (1997)	Current study[2]	
1040	Gold and Silver Ores	✓	✓	✓	
1311	Crude Petroleum and Natural Gas	✓	✓	✓	
2731	Book publishing	✓	×	✓	
2834	Pharmaceutical Preparations	✓	✓	✓	SIC Code 2830
3312	Blast furnaces and steel mills	✓	×	✓	
3570	Electronic Computing Equipment	✓	✓	✓	SIC Code 3500
3663	Radio and TV Communication Equipment	✓	✓	✓	SIC Code 3660
3674	Semiconductors and Related Devices	✓	✓	✓	
3825	Instruments to Measure Electricity	✓	✓	✓	SIC Code 3800
3826	Engineering and Scientific Instruments	✓	×	×	
3841	Surgical and Medical Instruments	✓	✓	✓	
3944	Games and toys	✓	×	×	
4213	Trucking (except local)	✓	✓	✓	
4512	Certified Air Transportation	✓	✓	✓	
6211	Security Brokers and Dealers	✓	✓	✓	
6331	Fire Marine and Casualty Insurance	×	✓	×	
7812	Motion Picture Production	✓	✓	✓	SIC Code 7800
7372	Computer Programming and Software	✓	✓	✓	SIC Code 7370
	Total Number of Industries	**17**	**14**	**15**	

The second phase of data collection focused on obtaining the transcripts of corporate financial communications (annual CEO letters to shareholders and CEO periodic discussions with analysts) of companies that met the selection criteria. These financial communications transcripts were tested for their language features provided in DICTION 7.0 and Linguistic Inquiry and Word Count (LIWC). Accordingly, the selection criteria was for all the companies selected to have CEO letters to shareholders in annual reports and CEO contributions in analysts' discussions for the relevant periods 2011-2015 or

[2] Six of the SIC codes used in this study vary from those used in prior studies. Given the reduced number of companies in the UK in comparison to those in the USA, it was necessary to broaden the code to the next SIC level in the fourth digit of the SIC code e.g. 2834 was broadened out to the higher level code of 2830 (significant at the first three digits SIC) which includes other pharmaceutical manufacturing companies. This was necessary to combine the few companies (at an upper level) in the UK to match up with those in the USA.

2014-2018. The second relevant period, 2014-2018, was adopted for companies that did not have published CEO letters and CEO contributions in analysts' discussions during the first relevant period 2011-2015. In cases where there were no CEO letters or CEO contributions in analysts' discussions, the transcripts of the members of top management representing the CEO were collected. However, for all the companies selected, the CEOs were represented just 10 times over the course of the 5-year period.

Table 3.5 Summary Table of Documents Analysed

Low Discretion Industry	AR	AD	High Discretion Industry	AR	AD
Acacia Mining Plc	13,046	71,897	AstraZeneca Plc	7,582	105,284
Antofagasta Plc	11,266	42,401	Aveva Plc	14,645	31,643
Cairn Energy Plc	6,257	21,971	Chemring Group Plc	9,694	36,819
Centamin Plc	7,125	50,397	Cineworld Group Plc	14,623	40,398
Connect Group Plc	6,921	29,769	Consort Medical Plc	17,553	18,406
EasyJet Plc	22,289	51,737	Dechra Pharmaceuticals Plc	7,799	26,812
EnQuest Plc	11,474	49,250	Essentra Plc	16,244	83,301
Evraz Plc	9,886	12,487	Dialight Plc	6,752	16,857
Fresnillo Plc	10,044	33,816	Genus Plc	5,561	30,200
Hochschild Mining Plc	6,368	37,149	GlaxoSmithKline Plc	6,162	139,102
Informa Plc	14,989	57,466	Hikma Pharmaceuticals Plc	6,162	28,780
International Consolidated Airlines	8,109	90,718	Indivior Plc	9,476	47,994
Investec Plc	12,273	52,173	ITV Plc	11,753	74,984
London Stock Exchange Plc	7,377	59,990	Meggit Plc	5,669	45,628
NEX Group Plc	9,800	23,572	Microfocus International Plc	28,423	14,321
Nostrum Oil & Gas Plc	5,761	29,939	Mitie Group Plc	11,159	37,893
Pearson Plc	9,303	59,595	Oxford Biomedica Plc	4,513	12,763
Petropavlovsk Plc	12,148	15,794	Playtech Plc	16,749	59,746
Premier Oil Plc	8,013	25,678	Porvair Plc	4,636	15,466
RELX Plc	5,761	65,377	QinetiQ Group Plc	10,488	43,840
Royal Dutch Shell Plc	5,833	154,519	Renishaw Plc	8,140	19,021
Royal Mail Plc	18,165	66,996	Rotork Plc	8,981	47,761
TP ICAP	10,511	32,832	Shire Plc	7,532	95,463
Tullow Oil Plc	7,160	85,574	Smith & Nephew Plc	3,574	66,427
Vedanta Resources	6,630	41,907	Smiths Group Plc	9,751	51,470
Wizz Air Holdings	12,931	32,260	Spectris Plc	5,483	48,052
BP Plc	5,964	153,641	Spirent Communications Plc	5,537	62,400
Hunting Plc	5,663	46,403	The Sage Group Plc	9,874	39,085
Lamprell Plc	6,261	35,577	TT Electronics Plc	13,081	19,973
John Wood Group Plc	5,908	45,622	Vectura Group Plc	3,705	37,265
Total Words Analysed	**283,236**	**1,576,507**		**291,301**	**1,397,154**
Total Documents Analysed	**150**	**344**		**150**	**299**
AR = Annual Reports **AD = Analysts Discussions**					

Table 3.5 shows the number of words and documents analysed for the two types of finaicnal communications documents for all the companies across the two industry groupings that met the selection criteria. The selection criteria produced a total of 300 CEO letters in annual reports, subdivided as 150 CEO letters to shareholders in annual reports for each discretion level - High and Low industry group, over the five-year period. With respect to analysts' discussions, the selection criteria produced a total of 643 CEO discussions with analysts in earnings conference calls. Specifically, companies in the high discretion industry had 299 earnings conference calls, while those in the low discretion industry had 344 conference calls over the five-year period. All the transcripts of CEO letters to shareholders were either collected from the Bloomberg Data or directly from the websites of each company. For the analysts' discussions, the transcripts of CEO contributions were collected from Bloomberg Data alone. The analysts' discussions for each company were extracted using the search facility provided by Bloomberg Data.

From the search box, the title 'Events Calendar: All events' or 'EVTS' was entered which produced all the event types and details of a company's earnings calls, earnings releases, corporate access, analyst marketing, among others. From this facility, the 'earnings calls' option was selected and the 'securities search' was customised to search for the earnings calls of each of the companies used in this study. In addition, the 'date' function was adjusted to search for all earnings calls between the relevant periods, either 2011-2015 or 2014-2018. Accordingly, the files generated from the search processes were downloaded. Once texts in the annual reports and analysts' discussions were downloaded and saved, all texts in the corpus were manually cleansed of headers, names of authors (the CEO), and other features of the text that were not part of the discourse (dates, copyright statements, among others). However, all the transcripts of CEO contributions were collected in their original form without making corrections to grammatical errors and speech disfluencies. To select companies on either side of the discretion groups, the criteria set was that they must have published annual reports and held discussions with analysts in the relevant periods. Of the initial number of companies extracted from Standard and Poor's Capital IQ database, 60 companies were selected, with 30 companies each on either side of high or low discretion industries having met the selection criteria. In sum, the data tested for this study involved 943 transcripts of CEO communications, i.e. (150 CEO letters + 299 CEO discussions with analysts) for companies in the high discretion industry and (150 CEO letters + 344 CEO discussions with analysts) for companies in the low discretion industry. Table 3.6 shows the details of the years of data collected for each company for the two relevant periods.

Table 3.6 Details of the Periods of Financial Communications Collected for Each Company.

No.	Low Discretion Industry	Period	High Discretion Industry	Period
1	Acacia Mining Plc	1	AstraZeneca Plc	1
2	Antofagasta Plc	1	Aveva Plc	2
3	Cairn Energy Plc	1	Chemring Group Plc	1
4	Centamin Plc	1	Cineworld Group Plc	2
5	Connect Group Plc	1	Consort Medical Plc	2
6	EasyJet Plc	1	Dechra Pharmaceuticals Plc	1
7	EnQuest Plc	1	Essentra Plc	1
8	Evraz Plc	1	Dialight Plc	2
9	Fresnillo Plc	1	Genus Plc	1
10	Hochschild Mining Plc	1	GlaxoSmithKline Plc	1
11	Informa Plc	1	Hikma Pharmaceuticals Plc	1
12	International Consolidated Airlines	1	Indivior Plc	2
13	Investec Plc	1	ITV Plc	1
14	London Stock Exchange Plc	1	Meggit Plc	1
15	NEX Group Plc	1	Microfocus International Plc	2
16	Nostrum Oil & Gas Plc	2	Mitie Group Plc	1
17	Pearson Plc	1	Oxford Biomedica Plc	1
18	Petropavlovsk Plc	1	Playtech Plc	1
19	Premier Oil Plc	1	Porvair Plc	2
20	RELX Plc	1	QinetiQ Group Plc	1
21	Royal Dutch Shell Plc	1	Renishaw Plc	2
22	Royal Mail Plc	2	Rotork Plc	1
23	TP ICAP	2	Shire Plc	1
24	Tullow Oil Plc	1	Smith & Nephew Plc	1
25	Vedanta Resources	1	Smiths Group Plc	1
26	Wizz Air Holdings	2	Spectris Plc	1
27	BP Plc	2	Spirent Communications Plc	1
28	Hunting Plc	2	The Sage Group Plc	1
29	Lamprell Plc	2	TT Electronics Plc	2
30	John Wood Group Plc	2	Vectura Group Plc	1

Period 1: 2011 – 2015, Period 2: 2014 - 2018

The third phase of data collection and sample selection was limited to the results observed after testing for the language features of the financial communications of the companies that met the predefined criteria explained in phase two of data collection and sample selection. At the stage, relevant data were collected from the results already produced from testing conducted in phase two. The overarching aim was to test and compare the language features of the companies during favourable and unfavourable financial performance periods. For the purpose of this study, the favourable financial performance periods were termed as “good times”, while the unfavourable financial performance periods were termed as “bad times”. For the purpose of differentiating between good and bad times, the Actual Net Income of the companies in both low and high discretion industries were compared with Consensus Net Income

Estimates for each of the relevant periods 2011-2015 (for 43 companies) and 2014-2018 (for 17 companies).

The comparison between the Actual Net Income and Consensus Net Income Estimates creates another measure known as Net Income Surprise. For the purpose of this study, this was measured as [(Actual Net Income – Consensus Net Income Estimate) ÷ Consensus Net Income Estimate x 100]. In simple terms, the Actual Net Income is the Net Income reported by each company according to Generally Accepted Accounting Principles (GAAP) for each accounting period, while the Consensus Net Income Estimate is a consensus prediction of Net Income made by analysts, which is forecasted to be earned by a company during a particular accounting period. It is noteworthy that the Net Income Surprise is a percentage measure and it shows to what degree the Actual Net Income as reported by a company deviates from the predicted Consensus Net Income Estimates made by analysts for that particular period.

For the purpose of this study, a general rule was adopted for clearly differentiating between good and bad performance results using a 10% rule. The selection of this rule was based on the financial thresholds generally accepted by auditors as representing a material difference in enterprise income. Similar to risk management principles, there is the need to establish set criteria of probability and magnitude of anticipated events (Materialtytracker, 2019). These two indices of probability and materiality are applied in deciding the thresholds in materiality judgments. In the context of financial accounting and auditing, the determination of an appropriate level of materiality demands the establishment of appropriate base level and percentage. Conventionally, several accounting variables are used in the financial community as benchmarks, such as net income or earnings before tax, revenue, total assets, among others (Materialtytracker, 2019). According to Materialitytracker (2019), the most commonly used base level is the net income, while the most commonly used percentages range between 5% and 10%, expressed as <5% = immaterial, >10% is material, and 5-10% requires judgment. As there is no existence of a standard international guidance on the calculation of materiality to be considered agreed thresholds, this study adopted the >10% threshold as the base level of materiality.

Prior to establishing this rule, it was noted that a negative Net Income Surprise could create a negative reaction from the stakeholders of a company towards their investments. Typically, it is expected that negative financial information (net income) has greater impact than positive financial information. Specifically, it was assumed that, all things being equal, if a company is able to attain or exceed the Consensus Net Income Estimate made by analysts, it would have no reason to expect a negative market reaction as compared to when it is unable to meet up with analysts' expectations. With an Actual Net Income exceeding the Consensus Net Income Estimate, a positive Net Income Surprise is attained. On

the other hand, when the Consensus Net Income Estimate is higher than the Actual Net Income reported, it results in a negative Net Income Surprise. Nevertheless, as it is almost impossible to earn a Net Income that is numerically the same as the Consensus Estimate, there is the likelihood to have some degree of variation between the Actual and Estimated Net Income. Accordingly, this is the point where there is the need to clearly differentiate between a Net Income Surprise that connotes a good performance and a Net Income Surprise that connotes a bad performance for any of the periods under consideration. As generally applied here, a negative Net Income Surprise that is more than -10% is considered for a bad performance, while a Net Income Surprise that is -10% or less, or positive is considered a good or reasonable performance.

In summary, this chapter elaborated on the aims and objectives of this study, the discussion of the research questions, research methodology, research methods used in the collection and selection of sample data, and the different tools used in analysing the data collected. Specifically, it discussed the different language categories provided by the tools adopted for this study, which form the basis for the research propositions discussed in the next chapter.

CHAPTER FOUR

DEVELOPMENT OF HYPOTHESES

With the previous chapters having focused on the relevant literature reviewed for this study and the discussion of the research aims and objectives, the research questions, construction of theory and on the text analysis tools covered in Chapter Three, this chapter focuses on the development of the different hypotheses tested at macro- and micro- levels of analysis. Specifically, eight levels of hypotheses are discussed on the language features provided by DICTION, LIWC, Flesch Reading Ease, Flesch-Kincaid Readability Grades, and the element of Tone in differentiating the language features of the financial communications of companies in the two industry groups.

4.1 Research Hypotheses

4.1.1 COMMONALITY

One of the propositions of this study, based on prior research is that the behaviour of an organisation is regulated by the logic of the institution in which it belongs (Thornton & Ocasio, 2013). Accordingly, an organisation is identified by the institutional field to which it belongs. In sum, through the instrumentality of common understanding, interactions and exchange, organisations within an institutional field become isomorphic in behaviour. This isomorphism becomes manifest in the language they use in communicating to their stakeholders. From these insights, this study hypothesises that there will be a level of COMMONALITY across organisations within an industry classification, different from those in other industries.

However, the insight from discretion research posits that in high discretion industries, different courses of action are available to organisations within such industry; hence, each industry reacts to its environment in accordance with its internal locus of control. On the other hand, in low discretion industries, the amount of courses of action available to the organisations within the industry is limited owing to factors such as institutionalised regulation, low growth rate, among others. The reaction of the organisations in the low discretion industry is in accordance with their external locus of control, as opposed to the liberation that stems from maximising individual choice. Accordingly, for the purpose of measuring COMMONALITY of communications within an industry, this study adopts one of the master variables of the text-analysis software, DICTION, to measure COMMONALITY.

According to Hart and Carroll (2015) COMMONALITY is a measure of "language highlighting the agreed-upon values of a group and rejecting idiosyncratic modes of engagement" (p. 5). It focuses on terms that depict 'Centrality', 'Cooperation', 'Rapport', and 'Interaction', with less emphasis on words that connote 'Diversity', 'Exclusion', and 'Liberation'. In sum, "COMMONALITY seeks to establish mutual

understanding and rapport with the target audience by underlining common values" (Patelli & Pedrini, 2015, p. 8). In the context of business communications, the extent to which two or more organisations use the same words, or do the same with similar frequency, provides an indication of COMMONALITY across these organisations' financial communication patterns.

On the other hand, the rejection of social conventions causes COMMONALITY to decrease, which signifies deviation from agreed norms. Therefore, the COMMONALITY in the financial communications of organisations in an industry stresses a language directed towards engaging with industry stakeholders or participants for the purpose of creating a sense of community and moderating commitment toward common objectives. In contrast, managers of organisations tend to engage aggressive financial reporting when driven by interests that connotes deviation from commonly-used accounting principles (Patelli & Pedrini, 2015). More so, aggressive financial communication is facilitated through unusual accounting methodologies that are adopted to attain the goals of an individual organisation as opposed to the value of the entire industry. This is likely to manifest through financial restatements and litigations (Dechow, Ge, Larson, & Sloan, 2011). Consistent with the literature on isomorphism and the effect of discretion on organisational outcomes, the first hypothesis is stated as:

H_1:

(a) The COMMONALITY level in the financial communications of organisations in a low discretion industry (LD) will be significantly higher than the COMMONALITY level in the financial communications of organisations in a high discretion industry (HD).

(b) During good or bad times, the COMMONALITY level in the financial communications of organisations in a low discretion industry (LD) will be significantly higher than the COMMONALITY level in the financial communications of organisations in a high discretion industry (HD).

(c) To emphasise a greater sense of community, the COMMONALITY level in the financial communications of organisations with bad performance results in a low discretion industry (LD) will be significantly higher than the COMMONALITY level in the financial communications of organisations with good performance results within the same industry (LD). This is expected to be the case with a higher level of agreement on prevailing circumstances during bad times than in good times.

(d) To emphasise a greater sense of community, the COMMONALITY level in the financial communications of organisations with good performance results in a high discretion industry (HD)

will be significantly higher than the COMMONALITY level in the financial communications of organisations with bad performance results within the same industry (HD).

4.1.1.1 Micro-level analysis

In the course of performing the analysis on the COMMONALITY scores for the two industry classifications, the sub-features of COMMONALITY will be analysed using the constituents equation from DICTION 7.0. Accordingly, there are sub-features that either increase or decrease the COMMONALITY score. These sub-features will be used as testable sub-hypotheses for each of the industry groups.

In view of the aforementioned statements in $\mathbf{H_1}$, this research states the first sub-hypotheses as thus:

For the sub-features that increase the COMMONALITY score:

(e) The sub-feature scores for 'Centrality', 'Cooperation', and 'Rapport' will be significantly higher for companies in the low discretion industry (LD) than in the high discretion industry (HD).

(f) During good or bad times, the sub-feature scores for 'Centrality', 'Cooperation', and 'Rapport' in the financial communications of organisations in a low discretion industry (LD) will be significantly higher than sub-feature scores for 'Centrality', 'Cooperation', and 'Rapport' in the financial communications of organisations in a high discretion industry (HD).

(g) To emphasise a greater sense of COMMONALITY, the sub-feature scores for 'Centrality', 'Cooperation', and 'Rapport' in the financial communications of organisations with bad performance results in a low discretion industry (LD) will be significantly higher than the sub-feature scores for 'Centrality', 'Cooperation', and 'Rapport' in the financial communications of organisations with good performance results within the same industry (LD). This is expected to be the case with a higher level of agreement on prevailing circumstances during bad times than in good times.

(h) To emphasise a greater sense of COMMONALITY, the sub-feature scores for 'Centrality', 'Cooperation', and 'Rapport' in the financial communications of organisations with good performance results in a high discretion industry (HD) will be significantly higher than the sub-feature scores for 'Centrality', 'Cooperation', and 'Rapport' in the financial communications of organisations with bad performance results within the same industry (HD).

For the sub-features that decrease the COMMONALITY score:

(i) The sub-feature scores for 'Diversity', 'Exclusion', and 'Liberation' will be significantly higher for companies in the high discretion industry (HD) than in the low discretion industry (LD).

(j) During good or bad times, the sub-feature scores for 'Diversity', 'Exclusion', and 'Liberation' in the financial communications of organisations in a high discretion industry (HD) will be significantly higher than sub-feature scores for 'Diversity', 'Exclusion', and 'Liberation' in the financial communications of organisations in a low discretion industry (LD).

(k) To emphasise a greater sense of COMMONALITY, the sub-feature scores for 'Diversity', 'Exclusion', and 'Liberation' in the financial communications of organisations with bad performance results in a low discretion industry (LD) will be significantly lower than the sub-feature scores for 'Diversity', 'Exclusion', and 'Liberation' in the financial communications of organisations with good performance results within the same industry (LD). This is expected to be the case with a higher level of agreement on prevailing circumstances during bad times than in good times.

(l) To emphasise a greater sense of COMMONALITY, the sub-feature scores for 'Diversity', 'Exclusion', and 'Liberation' in the financial communications of organisations with good performance results in a high discretion industry (HD) will be significantly lower than the sub-feature scores for 'Diversity', 'Exclusion', and 'Liberation' in the financial communications of organisations with bad performance results within the same industry (HD).

4.1.2 CERTAINTY

According to Hart and Carroll (2015), CERTAINTY is a measure of "language indicating resoluteness, inflexibility, and completeness and a tendency to speak ex cathedra" (p. 6). It focuses on language that stresses precision and avoids hesitation. In addition, CERTAINTY conveys tenacity and insistence, and reduces ambivalence (Patelli & Pedrini, 2015). The presence of this master variable in financial communications denotes authoritative leadership that is unwilling to compromise, with an accompanying sense of assurance, which seeks approval and prides itself on persuasion. The literature on leadership posits that resoluteness is a common feature of transactional leaders who emphasise the need for contingent rewards and management by exception (Burns, 1978). These leaders use tight control mechanisms that undervalues ethical behaviour in exchange for self-interest (Turner, Barling, Epitropaki, Butcher, & Milner, 2002). Sama and Shoaf (2008) contend that as transactional leaders focus more on transactions and profitability, they are more likely to resort to unethical behaviours. Therefore, the

resoluteness of the language used in the financial communications within an industry as captured by CERTAINTY could indicate aggressive financial reporting.

On the other hand, given the constituent language elements of this variable the lack of CERTAINTY in the financial communications within an industry could indicate conservative financial reporting. However, the assessment of CERTAINTY or uncertainty cannot be universal, it must depend on the specific context being examined. Patelli and Pedrini (2013) discuss how economic contexts can influence the period being examined – like the world economic meltdown of 2008-2009 – in relation with discourse ethics. They suggest that it is inappropriate to emphasise resoluteness and a sense of certainty in an economic situation shaped by high level of financial instability. Hence, in environments faced with uncertainty, it seems more legitimate to use flexible language for the purpose of seeking understanding rather than approval. Therefore, in the context of this study, CERTAINTY appears to align with aggressive organisational behaviour, while uncertainty aligns with conservativeness. Based on this, the second hypothesis is stated as:

H_2:

(a) The CERTAINTY level in the financial communications of organisations in a high discretion industry (HD) will be significantly higher than the CERTAINTY level in the financial communications of organisations in a low discretion industry (LD).

(b) During good or bad times, the CERTAINTY level in the financial communications of organisations in a high discretion industry (HD) will be significantly higher than the CERTAINTY level in the financial communications of organisations in a low discretion industry (LD).

(c) To emphasise a greater sense of assurance and resoluteness, the CERTAINTY level in the financial communications of organisations with good performance results in a low discretion industry (LD) will be significantly higher than the CERTAINTY level in the financial communications of organisations with bad performance results within the same industry (LD).

(d) To emphasise a greater sense of assurance and resoluteness, the CERTAINTY level in the financial communications of organisations with good performance results in a high discretion industry (HD) will be significantly higher than the CERTAINTY level in the financial communications of organisations with bad performance results within the same industry (HD).

4.1.2.1 Micro-level analysis

In the course of performing the analysis on the CERTAINTY scores for the two industry classifications, the sub-features of CERTAINTY will be analysed using the constituents equation from DICTION 7.0.

Accordingly, there are sub-features that either increase or decrease the CERTAINTY score. These sub-features will be used as testable sub-hypotheses for each of the industry groups.

In view of the aforementioned statements in **H_2**, this research states the second sub-hypotheses as thus:

For the sub-features that increase the CERTAINTY score:

(e) The sub-feature scores for 'Tenacity', 'Leveling Terms', 'Collectives', and 'Insistence' will be significantly higher for companies in the high discretion industry (HD) than in the low discretion industry (LD).

(f) During good or bad times, the sub-feature scores for 'Tenacity', 'Leveling Terms', 'Collectives', and 'Insistence' in the financial communications of organisations in a high discretion industry (HD) will be significantly higher than sub-feature scores for 'Tenacity', 'Leveling Terms', 'Collectives', and 'Insistence' in the financial communications of organisations in a low discretion industry (LD).

(g) To emphasise a greater sense of CERTAINTY, the sub-feature scores for 'Tenacity', 'Leveling Terms', 'Collectives', and 'Insistence' in the financial communications of organisations with good performance results in a low discretion industry (LD) will be significantly higher than the sub-feature scores for 'Tenacity', 'Leveling Terms', 'Collectives', and 'Insistence' in the financial communications of organisations with bad performance results within the same industry (LD)

(h) To emphasise a greater sense of CERTAINTY, the sub-feature scores for 'Tenacity', 'Leveling Terms', 'Collectives', and 'Insistence' in the financial communications of organisations with good performance results in a high discretion industry (HD) will be significantly higher than the sub-feature scores for 'Tenacity', 'Leveling Terms', 'Collectives', and 'Insistence' in the financial communications of organisations with bad performance results within the same industry (HD)

For the sub-features that decrease the CERTAINTY score:

(i) The sub-feature scores for 'Numerical Terms', 'Ambivalence', 'Self-reference', and 'Variety' will be significantly higher for companies in the low discretion industry (LD) than in the high discretion industry (HD).

(j) During good or bad times, the sub-feature scores for 'Numerical Terms', 'Ambivalence', 'Self-reference', and 'Variety' in the financial communications of organisations in a low discretion industry (LD) will be significantly higher than sub-feature scores for 'Numerical Terms',

'Ambivalence', 'Self-reference', and 'Variety' in the financial communications of organisations in a high discretion industry (HD).

(k) To emphasise a greater sense of CERTAINTY, the sub-feature scores for 'Numerical Terms', 'Ambivalence', 'Self-reference', and 'Variety' in the financial communications of organisations with good performance results in a low discretion industry (LD) will be significantly lower than the sub-feature scores for 'Numerical Terms', 'Ambivalence', 'Self-reference', and 'Variety' in the financial communications of organisations with bad performance results within the same industry (LD).

(l) To emphasise a greater sense of CERTAINTY, the sub-feature scores for 'Numerical Terms', 'Ambivalence', 'Self-reference', and 'Variety' in the financial communications of organisations with good performance results in a high discretion industry (HD) will be significantly lower than the sub-feature scores for 'Numerical Terms', 'Ambivalence', 'Self-reference', and 'Variety' in the financial communications of organisations with bad performance results within the same industry (HD).

4.1.3 ACTIVITY

According to Hart and Carroll (2015), ACTIVITY is a measure of "language featuring movement, change, the implementation of ideas, and the avoidance of inertia." (p. 8). It increases with the frequent use of language that connotes human competition, forceful action, and personal triumph. Conversely, it decreases when communication ranges from neutrality to inactivity. Therefore, ACTIVITY is a programmatic language that focuses on accomplishments and carries the traits of narcissistic self-confidence (Patelli & Pedrini, 2015). In the context of this study, ACTIVITY is the language used by organisations in their financial communications to emphasise confidence and potentially overconfidence in their ability to pioneer change and deliver positive financial results. In the same vein, ACTIVITY reveals traits of heroism (Badaracco, 2001), self-confidence (Bénabou & Tirole, 2002), and transformational change (Brown & Treviño, 2006). Similar to the standpoint of this study, Badaracco (2001) argues that the pursuit of heroism is not the primary focus of ethical leaders, who would seek to establish change patiently, carefully, and incrementally.

Furthermore, Brown and Treviño (2006) argue that when driven by self-confidence, leaders who seek transformational change resort to unethical behaviours. Although self-confidence does not create a negative impact on organisational practices, yet, overconfidence is what produces self-defeat (Bénabou & Tirole, 2002). Subsequently, Schrand and Zechman (2012) reveal that there is a correlation between the overconfidence of CEOs and financial restatements. Supported by literature on ethical leadership,

overconfidence leads to the search for attention by engaging bold decisions that would otherwise be considered as unfeasible by most people (Kets de Vries, 2003). In addition, Chen (2010) shows that accounting frauds are more likely to be conducted by overconfident leaders. This study hinges on the standpoint that the promise of the delivery of overly high performances by industries with a high level of discretion can be understood through their aggressive financial communications. Accordingly, the third hypothesis is stated as:

H_3:

(a) The ACTIVITY level in the financial communications of organisations in a high discretion industry (HD) will be significantly higher than the ACTIVITY level in the financial communications of organisations in a low discretion industry (LD).

(b) During good or bad times, the ACTIVITY level in the financial communications of organisations in a high discretion industry (HD) will be significantly higher than the ACTIVITY level in the financial communications of organisations in a low discretion industry (LD).

(c) To emphasise a greater sense of competition and personal triumph, the ACTIVITY level in the financial communications of organisations with good performance results in a low discretion industry (LD) will be significantly higher than the ACTIVITY level in the financial communications of organisations with bad performance results within the same industry (LD).

(d) To emphasise a greater sense of competition and personal triumph, the ACTIVITY level in the financial communications of organisations with good performance results in a high discretion industry (HD) will be significantly higher than the ACTIVITY level in the financial communications of organisations with bad performance results within the same industry (HD).

4.1.3.1 Micro-level analysis

In the course of performing the analysis on the ACTIVITY scores for the two industry classifications, the sub-features of ACTIVITY will be analysed using the constituents equation from DICTION 7.0. Accordingly, there are sub-features that either increase or decrease the ACTIVITY score. These sub-features will be used as testable sub-hypotheses for each of the industry groups.

In view of the aforementioned statements in **H_3**, this research states the third sub-hypotheses as thus:

For the sub-features that increase the ACTIVITY score:

(e) The sub-feature scores for 'Aggression', 'Accomplishment', 'Communication', and 'Motion' will be significantly higher for companies in the high discretion industry (HD) than in the low discretion industry (LD).

(f) During good or bad times, the sub-feature scores for 'Aggression', 'Accomplishment', 'Communication', and 'Motion', in the financial communications of organisations in a high discretion industry (HD) will be significantly higher than sub-feature scores for 'Aggression', 'Accomplishment', 'Communication', and 'Motion' in the financial communications of organisations in a low discretion industry (LD).

(g) To emphasise a greater sense of ACTIVITY, the sub-feature scores for 'Aggression', 'Accomplishment', 'Communication', and 'Motion' in the financial communications of organisations with good performance results in a low discretion industry (LD) will be significantly higher than the sub-feature scores for 'Aggression', 'Accomplishment', 'Communication', and 'Motion' in the financial communications of organisations with bad performance results within the same industry (LD)

(h) To emphasise a greater sense of ACTIVITY, the sub-feature scores for 'Aggression', 'Accomplishment', 'Communication', and 'Motion' in the financial communications of organisations with good performance results in a high discretion industry (HD) will be significantly higher than the sub-feature scores for 'Aggression', 'Accomplishment', 'Communication', and 'Motion' in the financial communications of organisations with bad performance results within the same industry (HD).

For the sub-features that decrease the ACTIVITY score:

(i) The sub-feature scores for 'Cognition', 'Passivity', and 'Embellishment' will be significantly higher for companies in the low discretion industry (LD) than in the high discretion industry (HD).

(j) During good or bad times, the sub-feature scores for 'Cognition', 'Passivity', and 'Embellishment' in the financial communications of organisations in a low discretion industry (LD) will be significantly higher than sub-feature scores for 'Cognition', 'Passivity', and 'Embellishment' in the financial communications of organisations in a high discretion industry (HD).

(k) To emphasise a greater sense of ACTIVITY, the sub-feature scores for 'Cognition', 'Passivity', and 'Embellishment' in the financial communications of organisations with good performance results in a low discretion industry (LD) will be significantly lower than the sub-feature scores for 'Cognition', 'Passivity', and 'Embellishment' in the financial communications of organisations with bad performance results within the same industry (LD).

(l) To emphasise a greater sense of ACTIVITY, the sub-feature scores for 'Cognition', 'Passivity', and 'Embellishment' in the financial communications of organisations with good performance results in a high discretion industry (HD) will be significantly lower than the sub-feature scores for 'Cognition', 'Passivity', and 'Embellishment' in the financial communications of organisations with bad performance results within the same industry (HD).

4.1.4 REALISM

According to Hart and Carroll (2015), REALISM is a measure of "language describing tangible, immediate, recognizable matters that affect people's everyday lives" (p. 9). It other words, it is language that seeks to identify what is recognisable in everyday matter from what is considered implausible or unfamiliar. Accordingly, the use of concrete and familiar terms increases when there is a growing concern for present circumstances. Conversely, it decreases as the user of language communicates using complex words, long sentences, and uncommon terminology (Patelli & Pedrini, 2015). Hence, the use of REALISM captures the ease of reading, which, conventionally, is prone to rhetorical manipulation, based on the insight from the literature on impression management theory (Merkl-Davies & Brennan, 2007). Li (2008) stresses that the use of complex language in corporate narratives is a strategy used to deceive investors. In the same vein, prior accounting studies on impression management have investigated the link between the readability of annual reports and firm performance (e.g., Li, 2008), financial press coverage (Courtis, 1998), analyst following (Lehavy, Li, & Merkley, 2011), and corporate risk (Courtis, 1986).

In all these studies, they found that readability of annual reports were manipulated to obfuscate and divert attention from unfavourable financial performance. Therefore, the use of complex language in the financial communications of organisations as captured by low REALISM indicates a high level of financial results that are implausible, which is used, in this study, as a proxy for aggressive or hard financial communications. Consequently, this study argues, that this is particularly attributable to organisations in high discretion industries with firms using technical words that are not easily understood by their stakeholders. This standpoint aligns with the view of Yuthas et al. (2002) that there is a violation of the comprehensibility principle of discourse ethics when complex lexicons are used in financial

communications. Consistent with the research findings of prior accounting studies and the comprehensibility principles of discourse ethics with respect to the readability of financial communications, the fourth hypothesis is stated as:

H_4:

(a) The REALISM level in the financial communications of organisations in a low discretion industry (LD) will be significantly higher than the REALISM level in the financial communications of organisations in a High discretion industry (HD).

(b) During good or bad times, the REALISM level in the financial communications of organisations in a low discretion industry (LD) will be significantly higher than the REALISM level in the financial communications of organisations in a high discretion industry (HD).

(c) To emphasise a greater sense of familiarity and concreteness, the REALISM level in the financial communications of organisations with good performance results in a low discretion industry (LD) will be significantly higher than the REALISM level in the financial communications of organisations with bad performance results within the same industry (LD).

(d) To emphasise a greater sense of familiarity and concreteness, the REALISM level in the financial communications of organisations with good performance results in a high discretion industry (HD) will be significantly higher than the REALISM level in the financial communications of organisations with bad performance results within the same industry (HD).

4.1.4.1 Micro-level analysis

In the course of performing the analysis on the REALISM scores for the two industry classifications, the sub-features of REALISM will be analysed using the constituents equation from DICTION 7.0. Accordingly, there are sub-features that either increase or decrease the REALISM score. These sub-features will be used as testable sub-hypotheses for each of the industry groups.

In view of the aforementioned statements in **H_4**, this research states the fourth sub-hypotheses as thus:

For the sub-features that increase the REALISM score:

(e) The sub-feature scores for 'Familiarity', 'Spatial Terms', 'Temporal Terms', 'Present Concern', 'Human Interest', and 'Concreteness' will be significantly higher for companies in the low discretion industry (LD) than in the High discretion industry (HD).

(f) During good or bad times, the sub-feature scores for 'Familiarity', 'Spatial Terms', 'Temporal Terms', 'Present Concern', 'Human Interest', and 'Concreteness', in the financial communications of organisations in a low discretion industry (LD) will be significantly higher than sub-feature scores for 'Familiarity', 'Spatial Terms', 'Temporal Terms', 'Present Concern', 'Human Interest', and 'Concreteness' in the financial communications of organisations in a High discretion industry (HD)

(g) To emphasise a greater sense of REALISM, the sub-feature scores for 'Familiarity', 'Spatial Terms', 'Temporal Terms', 'Present Concern', 'Human Interest', and 'Concreteness' in the financial communications of organisations with good performance results in a low discretion industry (LD) will be significantly higher than the sub-feature scores for 'Familiarity', 'Spatial Terms', 'Temporal Terms', 'Present Concern', 'Human Interest', and 'Concreteness' in the financial communications of organisations with bad performance results within the same industry (LD)

(h) To emphasise a greater sense of REALISM, the sub-feature scores for 'Familiarity', 'Spatial Terms', 'Temporal Terms', 'Present Concern', 'Human Interest', and 'Concreteness' in the financial communications of organisations with good performance results in a high discretion industry (HD) will be significantly higher than the sub-feature scores for 'Familiarity', 'Spatial Terms', 'Temporal Terms', 'Present Concern', 'Human Interest', and 'Concreteness' in the financial communications of organisations with bad performance results within the same industry (HD)

For the sub-features that decrease the REALISM score:

(i) The sub-feature scores for 'Past Concern' and 'Complexity' will be significantly higher for companies in the high discretion industry (HD) than in the low discretion industry (LD).

(j) During good or bad times, the sub-feature scores for 'Past Concern' and 'Complexity' in the financial communications of organisations in a high discretion industry (HD) will be significantly higher than sub-feature scores for 'Past Concern' and 'Complexity' in the financial communications of organisations in a low discretion industry (LD).

(k) To emphasise a greater sense of implausibility and unfamiliarity, the sub-feature scores for 'Past Concern' and 'Complexity' in the financial communications of organisations with bad performance results in a low discretion industry (LD) will be significantly higher than the sub-

feature scores for 'Past Concern' and 'Complexity' in the financial communications of organisations with good performance results within the same industry (LD)

(l) To emphasise a greater sense of implausibility and unfamiliarity, the sub-feature scores for 'Past Concern' and 'Complexity' in the financial communications of organisations with bad performance results in a high discretion industry (HD) will be significantly higher than the sub-feature scores for 'Past Concern' and 'Complexity' in the financial communications of organisations with good performance results within the same industry (HD)

4.1.5 OPTIMISM

According to Hart and Carroll (2015), OPTIMISM is a measure of "language endorsing some person, group, concept or event or highlighting their positive entailments" (p. 7). It is founded on positive terms that portray a sense of praise and satisfaction (Patelli & Pedrini, 2015). On the other hand, the use of negative communication directed towards emphasising periods of hardship decreases OPTIMISM. In accounting literature, the use of optimistic tone has been linked with impression management strategy (Hooghiemstra, 2000). Schlenker (1980) views impression management as a conscious or unconscious attempt to manipulate management representations and interpretations. Corporate financial communications are used to strategically influence the expectations of stakeholders rather than communicate performance results in a faithful manner (Bowen et al., 2005).

Accordingly, the use of aggressive financial communications aims at distorting financial numbers to portray a more favourable financial situation (Patelli & Pedrini, 2015). In the same vein, Clatworthy and Jones (2003) emphasise that the management of impression in corporate financial communications is achieved through an optimistic tone that ignores failures and emphasises success. Similarly, Yuthas et al. (2002) use a framework to affirm that fundamental accounting principles, which are likely to be jeopardised by aggressive financial communications, are understood through the assessment of their score for OPTIMISM. However, optimistic tone in financial communications published during periods of global economic downturn is sincere based on its alignment with current and future financial performance (Patelli & Pedrini, 2015, p. 7). Nevertheless, this study proposes that OPTIMISM is used to advance aggressive financial communications, hence, the fifth hypothesis is stated as:

H_5:

(a) The OPTIMISM level in the financial communications of organisations in a high discretion industry (HD) will be significantly higher than the OPTIMISM level in the financial communications of organisations in the low discretion industry (LD).

(b) During good or bad times, the OPTIMISM level in the financial communications of organisations in a high discretion industry (HD) will be significantly higher than the OPTIMISM level in the financial communications of organisations in a low discretion industry (LD).

(c) To emphasise a greater sense of satisfaction and positive entailments, the OPTIMISM level in the financial communications of organisations with good performance results in a low discretion industry (LD) will be significantly higher than the OPTIMISM level in the financial communications of organisations with bad performance results within the same industry (LD).

(d) To emphasise a greater sense of satisfaction and positive entailments, the OPTIMISM level in the financial communications of organisations with good performance results in a high discretion industry (HD) will be significantly higher than the OPTIMISM level in the financial communications of organisations with bad performance results within the same industry (HD).

4.1.5.1 Micro-level analysis

In the course of performing the analysis on the OPTIMISM scores for the two industry classifications, the sub-features of OPTIMISM will be analysed using the constituents equation from DICTION 7.0. Accordingly, there are sub-features that either increase or decrease the OPTIMISM score. These sub-features will be used as testable sub-hypotheses for each of the industry groups.

In view of the aforementioned statements in $\mathbf{H_5}$, this research states the fifth sub-hypotheses as thus:

For the sub-features that increase the OPTIMISM score:

(e) The sub-feature scores for 'Praise', 'Satisfaction', and 'Inspiration' will be significantly higher for companies in the high discretion industry (HD) than in the low discretion industry (LD).

(f) During good or bad times, the sub-feature scores for 'Praise', 'Satisfaction', and 'Inspiration', in the financial communications of organisations in a high discretion industry (HD) will be significantly higher than sub-feature scores for 'Praise', 'Satisfaction', and 'Inspiration' in the financial communications of organisations in a low discretion industry (LD).

(g) To emphasise a greater sense of OPTIMISM, the sub-feature scores for 'Praise', 'Satisfaction', and 'Inspiration' in the financial communications of organisations with good performance results in a low discretion industry (LD) will be significantly higher than the sub-feature scores for 'Praise', 'Satisfaction', and 'Inspiration' in the financial communications of organisations with bad performance results within the same industry (LD).

(h) To emphasise a greater sense of OPTIMISM, the sub-feature scores for 'Praise', 'Satisfaction', and 'Inspiration' in the financial communications of organisations with good performance results in a high discretion industry (HD) will be significantly higher than the sub-feature scores for 'Praise', 'Satisfaction', and 'Inspiration' in the financial communications of organisations with bad performance results within the same industry (HD)

For the sub-features that decrease the OPTIMISM score:

(i) The sub-feature scores for 'Blame', 'Hardship', and 'Denial' will be significantly higher for companies in the low discretion industry (LD) than in the high discretion industry (HD).

(j) During good or bad times, the sub-feature scores for 'Blame', 'Hardship', and 'Denial' in the financial communications of organisations in a low discretion industry (LD) will be significantly higher than sub-feature scores for 'Blame', 'Hardship', and 'Denial' in the financial communications of organisations in a high discretion industry (HD).

(k) To emphasise a greater sense of OPTIMISM, the sub-feature scores for 'Blame', 'Hardship', and 'Denial' in the financial communications of organisations with good performance results in a low discretion industry (LD) will be significantly lower than the sub-feature scores for 'Blame', 'Hardship', and 'Denial' in the financial communications of organisations with bad performance results within the same industry (LD).

(l) To emphasise a greater sense of OPTIMISM, the sub-feature scores for 'Blame', 'Hardship', and 'Denial' in the financial communications of organisations with good performance results in a high discretion industry (HD) will be significantly lower than the sub-feature scores for 'Blame', 'Hardship', and 'Denial' in the financial communications of organisations with bad performance results within the same industry (HD).

4.2 Measurement for Linguistic Inquiry and Word Count (LIWC) – LIWC Language Categories

As explained in the section above, another textual analysis tool was adopted to validate some of the Master Variables and sub-features of DICTION 7. Accordingly, eleven (11) language categories of LIWC2015 were selected for this purpose. The language categories are Tone, First Person Singular Pronoun, First Person Plural Pronoun, Positive Emotion, Negative Emotion, Certainty, Achievement, Risk, Past Focus, Present Focus, and Motion (Pennebaker et al. 2015). With the exception of Tone, the other ten (10) language categories were compared side-by-side with those of DICTION 7 owing to the similarity in definition of the language categories of LIWC2015 and DICTION 7. The set of hypotheses generated for the use of Tone between the high and low discretion industries were structured on the prior

study of Henry (2008). Accordingly, the testable hypotheses stated for some of the Master Variables and sub-features of DICTION were directly applied to the language categories of LIWC2015 for the purpose of matching them together and obtaining validity for the measurement. Table 4.1 below shows the matching process.

Table 4.1 Matching Process for DICTION Sub-features and LIWC Language Category

No	DICTION 7 Master Variable or Sub-Feature	LIWC2015 Language Category
1	Self-Reference	First Person Singular Pronoun
2	Collectives	First Person Plural Pronoun
3	Satisfaction	Positive Emotion
4	Denial	Negative Emotion
5	CERTAINTY	Certainty
6	Accomplishment	Achievement
7	Ambivalence	Risk
8	Past Concern	Past Focus
9	Present Concern	Present Focus
10	ACTIVITY	Motion
11	None Available in DICTION 7.0	Tone

Accordingly, at all levels of measurement [Macro- and Micro- levels of analysis, during good and bad times – within an industry (high or low) and between the two industries (high and low)], these language categories of LIWC2015 were predicted to move in the same direction as those of DICTION 7. Therefore, the expressions for these would be that at all levels of analysis:

(a) The measurement for Self-Reference is expected to move in the same direction as First Person Singular pronoun.
(b) The measurement for Collectives is expected to move in the same direction as First Person Plural Pronoun.
(c) The measurement for Satisfaction is expected to move in the same direction as Positive Emotion.
(d) The measurement for Denial is expected to move in the same direction as Negative Emotion.
(e) The measurement for CERTAINTY is expected to move in the same direction as Certainty.
(f) The measurement for Accomplishment is expected to move in the same direction as Achievement.
(g) The measurement for Ambivalence is expected to move in the same direction as Risk.

(h) The measurement for Past Concern is expected to move in the same direction as Past Focus.
(i) The measurement for Present Concern is expected to move in the same direction as Present Focus.
(j) The measurement for ACTIVITY is expected to move in the same direction as Motion.

With respect to Tone, the prior study of Henry (2008) informed the set of predictions made in the context of this study. Henry (2008) introduced a novel approach in the measurement of 'Tone' in written text in terms of the positivity and negativity of words used by the author of a text. In her study, it was emphasised that the level of 'Tone' increases as the proportion of positive words exceed negative words in a given text. The standpoint of this study is that there is the potential for aggressive reporting in the financial communications of companies in the high discretion industry. In the same vein, with a potential high level of certainty demonstrated by top managers in such industry towards the delivery of predicted high performance results, there is the likelihood for careful selection of positive words that would underline their ability to and insistence on delivering such expectations.

For a higher level of 'Tone' to be maintained, there is the potential for the CEOs of companies in a high discretion industry to carefully select positive words while avoiding communicating with negative words that would otherwise undermine their ability to deliver high performance expectations. In contrast, for companies in the low discretion industry, this study posits that there is the potential for their CEOs to communicate using less aggressive, or rather conservative language, due to the already known lower growth prospects for companies in the low discretion industry. Accordingly, there is the likelihood for the CEOs of companies in the low discretion industry to either conservatively use positive words or use more negative words to emphasise their performance results in their financial communications, thereby resulting in a significantly lower level of 'Tone' in comparison to those observed for companies in the high discretion industry. Accordingly, the following set of predictions were conducted for the level of Tone in the financial communications of companies in the high and low discretion industries. Accordingly, the sixth hypothesis is stated as:

H_6:

(a) At the macro-level of analysis, the level of Tone in the financial communications of companies in the financial communications of companies in the high discretion industry will be significantly higher than for those in the low discretion industry.
(b) During good or bad times, the level of Tone in the financial communications of companies in the financial communications of companies in the high discretion industry (HD) will be significantly higher than for those in the low discretion industry (LD).

(c) The level of Tone in the financial communications of companies with good performance results in the low discretion industry (LD) will be significantly higher than for those with bad performance results within the same industry group.

(d) The level of Tone in the financial communications of companies with good performance results in the high discretion industry (HD) will be significantly higher than for those with bad performance results within the same industry group.

4.3 Measurement for Flesch Reading Ease and Flesch-Kincaid Readability Grade Level

To formulate testable hypothesis for the readability and comprehension indices of the financial communication documents of companies in the high and low discretion industries, this study relied on one of the sub-features of the REALISM Master Variable of DICTION 7 known as 'Complexity'. This sub-feature was applied in the formulation of hypothesis for the REALISM Master Variable in comparing the financial communication scores of companies in the high and low discretion industries. At the macro-level of analysis, it was hypothesised ($\mathbf{H_4}$) that the REALISM score of the financial communication documents of companies in the low discretion industry will be significantly higher than for those in the high discretion industry. By taking into consideration the sub-features of the Master Variable REALISM, it would mean that the sub-features that increase the REALISM score (Familiarity, Spatial Terms, Temporal Terms, Present Concern, Human Interest, and Concreteness) will be significantly higher for the financial communication documents of companies in the low discretion industry than for those in the high discretion industry. On the other hand, it would mean that the sub-features that decrease the REALISM score (Past-Concern, and Complexity) will be significantly higher for the financial communication documents of companies in the high discretion industry than for those in the low discretion industry.

In the context of this study, the sub-feature 'Complexity' was adopted in stating the hypotheses for testing the readability indices of the financial communication documents of companies in the high and low discretion industries. According to Hart and Carroll (2015, p. 9), 'Complexity' is a measure of the average-number of characters-per-word in a given text file. Similarly, Li (2008) stresses that the use of complex language in corporate narratives is a strategy used to deceive investors. Several studies on impression management have investigated the link between the readability of annual reports and firm performance (Li, 2008), financial press coverage (Courtis, 1998), analysts following (Lehavy et al. 2011), and corporate risk (Courtis, 1986). In all these studies, they found that readability of annual reports was manipulated to obfuscate and divert attention from unfavourable financial performance results. Hence, it is more difficult to read and understand annual reports when a company reports unfavourable or bad financial performance results than when it reports favourable or good financial performance results. Accordingly, the measure of the sub-feature 'Complexity' stems from the Reading Ease Scores established in Flesch

(1951) which posits that convoluted phrasings make the ideas of a text abstract and with unclear implications.

In view of this, the Flesch Reading Ease indices were adopted in the measurement of the readability scores of the financial communication documents of the two industry groupings under consideration. With respect to the Flesch-Kincaid Readability Grade Level, it is a metric based on the length of words and length of sentences (McNamara et al. 2014, p. 13). It establishes that the grade level increases as the length of words and sentences increases, which is a reasonable psychological standpoint. Furthermore, as longer words tend to be less frequent in English language, it is normal that readers have less world knowledge of these longer words (McNamara et al. 2014). Consequently, the use of longer sentences tends to place a higher demand on the cognitive resources of readers, thereby increasing the comprehension difficulty. As grade level is the level of education that would be required to process a text file, longer words and sentences will require a higher level of education, especially in the comprehension of words that are complex and less frequent in English language.

On the other hand, the level of education needed for the comprehension of a text file will be lower if the length of words and sentences are shorter, especially words that are simple and more frequent in English language. It is noteworthy that there is an inverse relationship between Flesch Reading Ease (readability score) and Flesch-Kincaid Readability Grade Level (level of education). The higher the readability score of a text file, the lower the level of education that would be required to understand it. On the other hand, the lower the readability score of a text file, the higher the level of education that would be required to understand it. In view of the extant literature on the readability of text, this seventh hypothesis is stated as:

H_7:

(a) The readability score of the financial communications of companies in the low discretion industry (LD) will be significantly higher than for companies in the high discretion industry (HD).
(b) The readability grade level of the financial communications of companies in the high discretion industry (HD) will be significantly higher than for companies in the low discretion industry (LD).
(c) During good or bad times, the readability score of the financial communications of companies in the low discretion industry (LD) will be significantly higher than for companies in the high discretion industry (HD).

(d) During good or bad times, the readability grade level of the financial communications of companies in the high discretion industry (HD) will be significantly higher than for those in the low discretion industry (LD).
(e) The readability score of the financial communications of companies with good performance results in a low discretion industry (LD) will be significantly higher than for the companies with bad performance results within the same industry.
(f) The readability grade level of the financial communications of companies with bad performance results in a low discretion industry (LD) will be significantly higher than for the companies with good performance results within the same industry.
(g) The readability score of the financial communications of companies with good performance results in a high discretion industry (HD) will be significantly higher than for the companies with bad performance results within the same industry.
(h) The readability grade level of the financial communications of companies with bad performance results in a high discretion industry (HD) will be significantly higher than for the companies with good performance results within the same industry.

According to McNamara et al. (2014), there are many categories of text called genre and this has implications for its readability and comprehensibility. Brooks and Warren (1972) divides text genre into narrative, expository, persuasive, and descriptive (see also McCarthy, Myers, Briner, Graesser, & McNamara, 2009). Text in certain categories are more difficult to read and comprehend than texts in other categories. According to McNamara et al. (2014) narrative texts tend to have a higher level of readability and comprehension than informational texts. Prior studies estimate that narrative texts are read and understood approximately twice as quickly and can be remembered twice as well as informational texts (Graesser & Ottati, 1995; Haberlandt & Graesser, 1985).

In view of this, a potential multidimensional perspective adopted in analysing text for this study was to scale the texts in accordance to text dimensions, a method adopted from Biber (1991) and Louwerse, McCarthy, McNamara, and Graesser. (2004). For example, a sample text can be scaled on the degree to which it is informational versus narrative; print versus oral; decontextualised versus interactive with a target audience; academic (formal) versus informal, among others (McNamara et al. 2014, p. 14). Biber (1991) developed an analytical scheme that helps to scale the dimension of texts, which overlaps into predicating the differences between texts with respect to their ease or difficulty in reading and comprehension. McNamara et al. (2014) suggest that informational, print, decontextualised, and academic texts are more difficult to read and understand than narrative, oral, contextualised and informal texts. Accordingly, the two genres of text adopted for this study are

informational, print, and decontextualised text (annual reports), and narrative, transcribed oral discussions, contextualised and informal text (analysts' discussions). The rationale for comparing the readability statistics of the two forms of financial communications documents was to test which of them has a higher potential to be targeted by top management for rhetorical manipulation especially during periods of unfavourable or bad performance results. With the extant theory on text genre, the eighth hypothesis is stated as thus:

H_8:

(a) The readability score of the analysts' discussions of companies in the low discretion industry (LD) will be significantly higher than the readability score of the annual reports of companies within the same industry.
(b) The readability grade level of the annual reports of companies in the low discretion industry (LD) will be significantly higher than the readability grade level of the analysts' discussions of companies within the same industry.
(c) The readability score of the analysts' discussions of companies in the high discretion industry (HD) will be significantly higher than the readability score of the annual reports of companies within the same industry.
(d) The readability grade level of the annual reports of companies in the high discretion industry (HD) will be significantly higher than the readability grade level of the analysts' discussions of companies within the same industry.
(e) The aggregate readability score of the analysts' discussions of companies in both high and low discretion industries will be significantly higher than the aggregate readability score of the annual reports of companies in both industries.
(f) The aggregate readability grade level of the annual reports of the companies in both high and low discretion industries will be significantly higher than the aggregate readability grade level of the analysts' discussions of companies in both industries.

In summary, this chapter covered in detail the hypotheses formulated and proposed using different language features. These form the basis for the discussion on the next chapter on the results obtained from the text analysis tools applied and statistical analysis conducted. It follows with the discussion of the results in the light of previous studies.

CHAPTER FIVE

RESULTS CHAPTER

This chapter presents the results of all hypotheses tested, answering the three levels of research questions of this study. It begins with reporting the results obtained from testing the predictive validity of the underlying model for measuring overall industry discretion in the context of companies operating in the UK. The next line of results are with respect to the eight hypotheses tested using the text analysis and statistical analysis tools discussed in the previous sections, for the purpose of differentiating between the language features of companies in the two industry groups. It follows with the presentation of results obtained from the evaluation of the financial communications of the two industry groups during favourable and unfavourable financial periods.

5.1 Measurement of Industry-level Discretion – In the Context of Companies in the United Kingdom

In the course of testing the applicability of the theory on discretion in the UK context, this study adapted and replicated the method empirically established in Hambrick and Abrahamson (1995). In their study, they showed that four objective indicators are associated with the individual corporate ratings provided by expert analysts on the level of discretion in an industry. The results of their empirical research showed that research and development (R&D) intensity, advertising intensity, and market growth are all positively associated, while capital intensity is negatively associated with the ratings of experts on industry discretion. As a result, they established a linear equation for measuring industry discretion with deterministic regression coefficients of the aforementioned four objective indicators of industry discretion.

Following this novel approach established in Hambrick and Abrahamson (1995), McClelland et al. (2010) adopted these objective indicators to assess the validity of the industry selections in their study in the USA. Accordingly, they used Standard & Poor's COMPUSTAT database to gather relevant data on all firms with more than 500 employees in their selected industries. They collected data on: R&D Intensity measured as [(R&D expenses ÷ Sales) × 100]; Advertising Intensity measured as [(Advertising expenses ÷ Sales) × 100]; Capital Intensity measured as [net value of property, plants, and equipment ÷ number of employees; and Market Growth measured as the annual sales growth rate for the firms in the relevant period of study. Finally, McClelland et al. (2010) used the results of Hambrick and Abrahamson's (1995) study to calculate the overall measure of industry discretion. Accordingly, McClelland et al. (2010) calculated the summary measure of industry discretion empirically tested and established in Hambrick and Abrahamson's (1995) by using the intercept and regression coefficients in their multivariate model for predicting the perception of experts on industry discretion. Accordingly, overall industry discretion is measured as:

Industry discretion = 4.344 + (0.1209 × R&D Intensity) + (0.1519 × Advertising Intensity) – (0.004 × Capital Intensity) + (0.0596 × Sales Growth Rate).

(See McClelland, Liang, and Barker III 2010, p. 1273).

It is noteworthy that McClelland et al. (2010) added an additional layer of measurement other than the dichotomy of high and low discretion industries classification established in Hambrick and Abrahamson (1995). McClelland et al. (2010) proposed and tested for differences in selected high-, medium-, and low-discretion industries (p. 1273) using one-way Analysis of Variance (ANOVA) that tested for differences between the various industry groups. In addition, they used Duncan's multiple range test to examine the difference between any two of the groups. The results of their analyses are presented below:

Table 5.1. Analysis of Variance: Industry Selections and Objective Measures of Discretion

	Industry Discretion Groups				
Measure of Discretion	High[a]	Medium[b]	Low[c]	*F* -Value	D.M.R Sig. Diff.[d]
R&D Intensity (*n* = 323)[e]	8.49	2.96	1.04	88.78***	High > Medium High > Low Medium > Low
Advertising Intensity (n = 341)	1.23	0.81	0.64	4.51***	High > Low
Sales Growth Rate (n = 332)	16.12	11.84	6.82	7.41***	High > Low Medium > Low
Capital Intensity (n = 433)	30138.91	28734.90	55473.4	26.61***	Low > High Low > Medium
Industry Discretion (n = 204)	5.19	4.35	2.80	28.98***	High > Medium High > Low Medium > Low

McClelland et al. (2010, p. 1273)

a. High Discretion firms are those in the computer equipment and electric component industries.

b. Medium Discretion firms are those in the industrial equipment industries.

c. Low Discretion firms are those in the furniture, textiles, and primary metals industry.

d. All reported group differences using Duncan's multiple range test are significant at $p \leq .05$ or smaller.

e. Sample sizes vary based on missing data.

**$p \leq .01$. ***$p \leq .001$.

With reference to the findings of McClelland et al. (2010), there is a convincing pattern of differences in the objective measurement of high-, medium-, and low-discretion industry groups. Accordingly, except

for capital intensity, the mean values of all the variables are in the proper ascending or descending order when moving from high discretion to medium discretion to low discretion industries. Furthermore, there are significant differences in all the variables, specifically, with the high discretion industry group consistently being significantly different from the low discretion industry group. With all the significant differences being in the direction of prediction. Interestingly, McClelland et al.'s (2010) overall measure of industry discretion adapted from Hambrick and Abrahamson (1995) shows that all the three groups are significantly different and in the direction of prediction. Therefore, McClelland et al. (2010) affirm that the overall pattern of the results adequately operationalised high-, medium-, and low-discretion industries.

Nevertheless, in the context of this study and as stated in the methodology chapter, the approach adopted is same as the one established in Hambrick and Abrahamson (1995) towards the measurement and classification of firms into high discretion industry and low discretion industry groups. The rationale for adopting and replicating this two-way classification is based on the unavailability of any published research work on the predictive validity of the underlying model in the context of companies in the United Kingdom. Consequently, it would be inadequate to apply the tripartite classification in McClelland et al. (2010) without testing the predictive validity of the model in Hambrick and Abrahamson (1995) within the UK context. It is noteworthy that the selected firms in these two studies are basically companies registered on stock exchanges in the United States. More importantly, the analyses conducted in McClelland et al. (2010) focused only on three selected industry groups by relying on prior studies that validated the classification of firms into high and low discretion industries. With respect to the high discretion industry environment, they chose firms in the computer equipment and electrical components industry groups by using a firm's primary four-digit Standard Industrial Classification (SIC) code as an identifier of industry affiliation. In addition, their choice of these firms as representatives of the high discretion industry is consistent with prior empirical studies (Finkelstein & Hambrick, 1990; Hambrick, Geletkanycz, & Fredrickson, 1993) that have adopted the computer industry as an archetypal high discretion industry. On the other hand, they chose firms in the textile, furniture, and primary metals industries as representatives of the low discretion industry environment. Finally, they subjectively selected industrial equipment manufacturers as archetypal medium or moderate discretion industry.

While this study did not aim to discredit the validity of the tripartite classification in McClelland et al. (2010), nevertheless, it argues that it will be inadequate to adopt this classification for a UK study without first testing the validity of the model in Hambrick and Abrahamson (1995). Accordingly, the overarching aim of testing for the predictive validity of the underlying model is to assess whether the firms registered in the UK environment will have the same or similar levels of discretion as those of their counterparts in the United States of America. In the context of this study, the classification of firms into high discretion

and low discretion industries was based on replicating the selection procedure of companies, using Standard and Poor's Capital IQ database. The companies were selected using similar four-digit Standard Industrial Classification (SIC) codes used in Hambrick and Abrahamson (1995). It is noteworthy that in the context of this study, the SIC codes were not exactly the same as those used in identifying the firms in the USA, nonetheless, they produced similar classification of firms as those in Hambrick and Abrahamson (1995). In view of this, the companies selected for this study were those with SIC codes in the FTSE350 index (reported as active only in the focal industry) in the Standard and Poor's Capital IQ database for the period 2012-2016. As Table 3.4 shows, the group is diverse, with a combination of young and old, consumer- and industrial- product, manufacturing, and service industries.

Table 5.2 shows the descriptive statistics for each of the four objective indicators of industry discretion established in Hambrick and Abrahamson (1995). For each of the indicators, this study calculated the five-year averages for each firm and then used the median value as a measure of the industry characteristic. The average number of Standard and Poor's Capital IQ firms in either a high or low discretion industry was 43.

Table 5.3 shows the descriptive statistics on the overall discretion score for each industry. These scores were computed using the intercept and regression coefficients in the multivariate model for predicting the perception of experts on industry discretion. In order to differentiate between industries as either belonging to low discretion or high discretion environment, the median discretion value was computed as **5.11.** Accordingly, any industry with a score below the median value is categorised as a low discretion industry, while any industry with a score above the median value is categorised as a high discretion industry. For ease of reading and interpretation, industries are listed in the ascending order. As can be seen in Table 5.3, all industries ranging from the Blast Furnaces and Steel Mills to Certified Air Transportation are in the low discretion industry, while those ranging from Semiconductors to Radio and TV Communication Equipment are in the high discretion industry. In total, there are seven (7) industries belonging to the low discretion environment, while eight (8) industries are in the high discretion environment.

For the purpose of obtaining statistical significance between the two industry groups based on the median scores computed above, a non-parametric test of statistical significance was conducted. Table 5.4 shows the analysis of variance between the industry selections. It shows that for Research and Development (R&D) Intensity, there is statistically significant difference (p = 0.000, d = 1.89) between the R&D Intensity of high and low discretion industries. Specifically, it shows that the value of R&D (Mean = 6.91, SD = 5.14) for the companies in high discretion industry is statistically significantly higher than for those in the

low discretion industry (Mean = 0.03, SD = 0.08). This is in line with prediction and in line with the results in Hambrick and Abrahamson (1995) and McClelland et al. (2010) to posit that the investment in R&D by companies in the high discretion industry is significantly higher than for those in the low discretion industry. Similarly, for Sales Growth Rate (SGR), there is statistically significant difference (p = 0.004, d = 1.59) between the Sales Growth Rate of high and low discretion industries. Specifically, it shows that the value of SGR (Mean = 10.99%, SD = 7%) for the companies in high discretion industry is statistically significantly higher than for those in the low discretion industry (Mean = 1%, SD = 3%). Again, this is in line with prediction and in line with the results in Hambrick and Abrahamson (1995) and McClelland et al. (2010) who posit that the Sales Growth Rate of companies in the high discretion industry is significantly higher than for those in the low discretion industry.

Furthermore, for Capital Intensity, there is a statistically significant difference (p = 0.05, d = 0.65) between the Capital Intensity of high and low discretion industries. Specifically, it shows that the value of Capital Intensity (Mean = 24811.912, SD = 15087.8) for the companies in a high discretion industry is statistically significantly lower than for those in the low discretion industry (Mean = 370077, SD = 746125). Again, this is in line with the prediction and in line with the results in Hambrick and Abrahamson (1995) and McClelland et al. (2010) who posit that the level of Capital Intensity in the operations of companies in the low discretion industry is significantly higher than for those in the high discretion industry. In addition, for Advertising Intensity, there is no statistically significant difference (p = 0.307, d = 0) between the Advertising Intensity of high and low discretion industries. Specifically, it shows that the value of Advertising (Mean = 0, SD = 0) for the companies in high discretion industry is not statistically significantly higher than for those in the low discretion industry (Mean = 0, SD = 0). Although the result did not reach a level of significance, nonetheless, it is in the direction of the prediction and in line with the direction of results in Hambrick and Abrahamson (1995) and McClelland et al. (2010) who posit that the investment on advertising by companies in the high discretion industry is higher than for those in the low discretion industry.

It is noteworthy that of all the four objective indicators tested in this study, Advertising Intensity is the only variable that did not reach a level of significance despite moving in the same direction as those reported in Hambrick and Abrahamson (1995) and McClelland et al. (2010). Finally, for the overall Industry Discretion measurement, there is statistically significant difference (p = 0.000, d = 3.75) between the Industry Discretion scores of high and low discretion industries. Specifically, it shows that the value of Industry Discretion (Mean = 5.83, SD = 0.49) for the companies in a high discretion industry is statistically significantly higher than for those in the low discretion industry (Mean = 4.43, SD = 0.19). Again, this is in line with prediction and in line with the results in Hambrick and Abrahamson (1995) and McClelland et

al. (2010) to posit that the level of overall Industry Discretion of companies in the high discretion environment is significantly higher than for those in the low discretion industry.

Overall, the results of this study are similar to those in Hambrick and Abrahamson (1995) and McClelland et al. (2010), although with varying objective indicator scores and accompanying industry discretion scores. Interestingly, the industries in Hambrick and Abrahamson (1995) listed as belonging to the high discretion environment are replicated in this study as belonging to the high discretion environment. Similarly, the industries listed in the prior study as belonging to the low discretion environment are replicated in this study as belonging to the low discretion industry. This shows the validity and reliability of both the discretion theory and the model for predicting industry discretion in the UK context. Nevertheless, the individual discretion scores are higher for UK companies in the low discretion industry as opposed to those reported in Hambrick and Abrahamson (1995) and McClelland et al. (2010). This is as a result of the level of Capital Intensity in the low discretion industry. The result suggests that the level of Capital Intensity in the operations of companies in the low discretion industry is lower than they used to be. This study posits that this could be as a result of technological advances, shorter product life cycles and the need for companies to move away from significant investments in property, plants, and equipment that cannot be easily adapted to meet technological- and demand- driven changes. In sum, the results produced in this study show that firms operating in the Computer Equipment, Semiconductor, and Pharmaceutical Industries are archetypal of the high discretion environment. This is consistent with several past empirical studies (e.g. Finkelstein & Hambrick, 1990; Hambrick & Abrahamson 1995; Hambrick et al. 1993). On the other hand, it shows that firms operating in the Metals, Trucking, and Petroleum and Natural Gas Distribution Industries are archetypal of the low discretion environment. Again, this is consistent with several past empirical studies (e.g. Hambrick & Abrahamson 1995; McClelland et al. 2010).

Accordingly, the results of this study provide sufficient predictive validity of the underlying model empirically tested in Hambrick and Abrahamson (1995) and McClelland et al. (2010) for the purpose of establishing the discretion scores of companies operating in the UK environment. This therefore, aids the classification of the UK companies as either belonging to the high or low discretion industry. In view of this, the overarching aim is to test whether this classification can produce an understanding of the psycholinguistic characteristics of the financial communications within each industry group.

Table 5.2. Descriptive Statistics on the Median Discretion Scores of each Objective Indicator.

UK Industry	R&D Intensity	Adv. Intensity	Capital Intensity	Market Growth
Blast furnace & Steel Mills	0.222	0	3838.097	-3.66%
Gold & Silver Ores	0	0	372824.569	-0.92%
Petroleum & Natural Gas	0	0	2033818.888	0.41%
Trucking (except local)	0	0	6469.930	2.16%
Book Publishing	0	0	5721.882	3.03%
Certified Air Transport	0	0	152175.811	7.06%
Security Brokers	0	0	15690.832	2.03%
Computer Equipment	3.610	0	18467.669	10.44%
Computer Programming	11.177	0	9248.792	3.72%
Engineering & Scientific Equipment	6.652	0	23082.188	6.01%
Motion Picture Production	0	0	36353.648	19.16%
Pharmaceuticals	9.094	0	44227.271	10.44%
Radio & TV	16.292	0	5808.556	3.45%
Semiconductors	3.410	0	17079.901	8.81%
Surgical	5.055	0	44227.271	25.91%

Table 5.3. Descriptive Statistics on the Overall Discretion Score per Industry.

UK Industry Discretion Scores	
Industry	**Discretion Score**
Blast Furnaces and Steel Mills	4.15
Gold and Silver Ores	4.29
Petroleum & Natural Gas	4.36
Security Brokers	4.46
Trucking (except local)	4.47
Book Publishing	4.52
Certified Air Transportation	4.76
Semiconductors	5.28
Computer Equipment	5.40
Motion Picture Production	5.49
Engineering and Scientific Equipment	5.51
Computer Programming	5.92
Pharmaceuticals	6.07
Surgical-Medical Instruments	6.50
Radio & TV communication Equipment	6.52
Median Discretion Score	**5.11**

Table 5.4. Analysis of Variance: Industry Selections and Objective Measures of Discretion

	Industry Discretion Groups			
Measure of Discretion	**High Discretion[a]**	**Low Discretion[b]**	***P*-Value**	**Kruskal-Wallis Ranking[c]**
R&D Intensity (*n* = 430)[d]	6.91	0.03	0.000***	High > Low
Advertising Intensity (n = 430)	0.00	0.00	0.307	High ≈ Low
Sales Growth Rate (n = 430)	10.99	1.00	0.004***	High > Low
Capital Intensity (n = 430)	24811.91	370077.14	0.050**	High < Low
Industry Discretion (n = 430)	5.83	4.43	0.000***	High > Low

***p*-value ≤ 0.1; **p*-value ≤ 0.05; ***p*-value ≤ 0.01**

a. High Discretion Industry firms are those with discretion score of **5.28 or more.**

b. Low Discretion Industry firms are those with discretion score of **4.76 or less.**

c. Group differences using Kruskal-Wallis Independent Samples test are significant at $p \leq .05$ or less.

d. Sample sizes based on data gathered from all firm years.

Note

The figures for the column on Advertising Intensity are all reported as zeros. This is owing to the use of median as the selection of the industry representative. While some companies had advertising spend, however, they are very minimal with most of the companies having no advertising spend in the relevant years.

5.2 Structure of Results and Analysis – Measures for DICTION, LIWC, and Readability Measures

In the course of testing the hypotheses for this study, the CEO letters in annual reports (hereafter, the annual reports or AR) and CEO contributions in analysts' discussions (hereafter, analysts' discussions or AD) of sample companies were analysed for linguistic markers highlighted at the hypotheses development stage. As noted in the methodology chapter, annual reports are informational, print, and decontextualised, while analysts' discussions are oral, narrative with an audience, contextualised, and transcribed. A total of sixty (60) companies were tested in line with the criteria set for their selection. As aforementioned, Table 3.6 shows the number of companies with annual reports and analysts' discussions in line with the relevant periods. Specifically, forty-three (43) of the sample companies had annual reports and analysts' discussions covering the periods between 2011 and 2015, while 17 companies had same disclosure reports covering the periods between 2014 and 2018. In view of this, the 60 sample companies were divided equally between two industry classifications of high discretion industry and low discretion industry. Consequently, 30 companies were classified as belonging to the low discretion industry while the other 30 companies were classified as belonging to the high discretion industry. For additional clarity, Table 5.5 shows the industry composition of both the low and high discretion industries.

Table 5.5 Industry Composition (Balanced Sample)

	Low D.	Percent	High D.	Percent
Blast furnaces and Steel mills	1	1.7		
Gold and silver ores	7	11.7		
Petroleum & Natural Gas	10	16.7		
Security brokers	4	6.7		
Trucking (except local)	2	3.3		
Book publishing	3	5.0		
Certified Air Transportation	3	5.0		
Semiconductors			6	10.0
Computer Equipment			1	1.7
Motion picture production			2	3.3
Engineering and Scientific Equipment			6	10.0
Computer Programming			2	3.3
Pharmaceuticals			10	16.7
Surgical-Medical Instruments			2	3.3
Radio & TV communication equipment			1	1.7
Total	**30**	**50**	**30**	**50**

In this study, the annual reports and analysts' discussions of these companies were analysed using the text-analysis software DICTION 7.0 using the five Master Variables of COMMONALITY, CERTAINTY, ACTIVITY, REALISM, and OPTIMISM. These variables were analysed at the macro-level of analysis with the purpose of determining if they showed the predicted statistically significant differences between the low and high discretion industry levels of classification. Furthermore, additional analysis at the micro-level was conducted. This was done in order to understand whether the component elements of each Master Variable showed further statistically significant differences between low and high discretion industries. In addition, the scores of each industry were compared with standardised DICTION scores (mean and standard deviation) using the z-scores computed for each industry, to understand the deviation of each industry's scores from the standardised scores of all the variables at the macro and micro levels of analysis.

Other accompanying analyses were conducted such as how aggressive or conservative these industries are with respect to their financial communications. Furthermore, additional analysis was conducted using Linguistic Inquiry and Word Count (LIWC) software to triangulate the language features of this text analysis software with those of DICTION 7.0. This was conducted for the purpose of triangulating and gaining internal validity for the results generated using the five Master Variables of DICTION 7.0, and to determine the language features that provide results in line with predictions of this study. The eleven (11) primary measures of the language categories tested using LIWC, as shown in Table 4.1, are Tone, First-Person Singular Pronoun, First-Person Plural Pronoun, Positive Emotion, Negative Emotion, Certainty, Achievement, Risk, Past Focus, Present Focus, and Motion.

In addition, computations applying the Flesch Reading Ease (hereafter, Readability Score) and Flesch-Kincaid Readability Grades (hereafter, Readability Grade) were conducted, to determine the respective readability of the annual reports and analysts' discussions of these industries, and their implications with respect to financial communications. In order to critically assess statistical significance for the results observed, a non-parametric statistical tool known as Independent-Samples Kruskal-Wallis Test was conducted to differentiate between the two industries, using appropriate statistical tests. Furthermore, Cohen's *d* measure of effect size was conducted to understand how different the differences are between the *p*-values of the variables tested for both industries. The rationale for this is to understand the degree to which this study could overlay the set of data for low discretion industry with those of the high discretion industry. If the value of Cohen's *d* is zero (0), then there is a perfect match between the datasets of low and high discretion industries. In other words, a value of zero (0) means that the two datasets are not different at all.

As the value of Cohen's *d* increases (shown in Figure 4.1), so does the indication of the difference between the datasets of the low and high discretion industries. Conventionally, a relatively well-agreed measurement scale has emerged for the interpretation of the Cohen's *d* (Cohen, 1988). Thus, a *d*-value below 0.2 is considered a small difference (about 85% overlay of data), and values between 0.2 and 0.5 are considered a moderate difference (an overlay of about 67% of the data). Any *d*-value above 0.5 is considered a large difference; a *d*-value of 1.0 has a data overlay of about 45% and a *d*-value of 2.0 has data overlay of about 19% (McNamara, Graesser, McCarthy, & Cai, 2014). In the context of this study, the focus of analysis is on the results that show statistically significant differences in the financial communications of the two industry groups with a Cohen's *d* value of 0.2 and above.

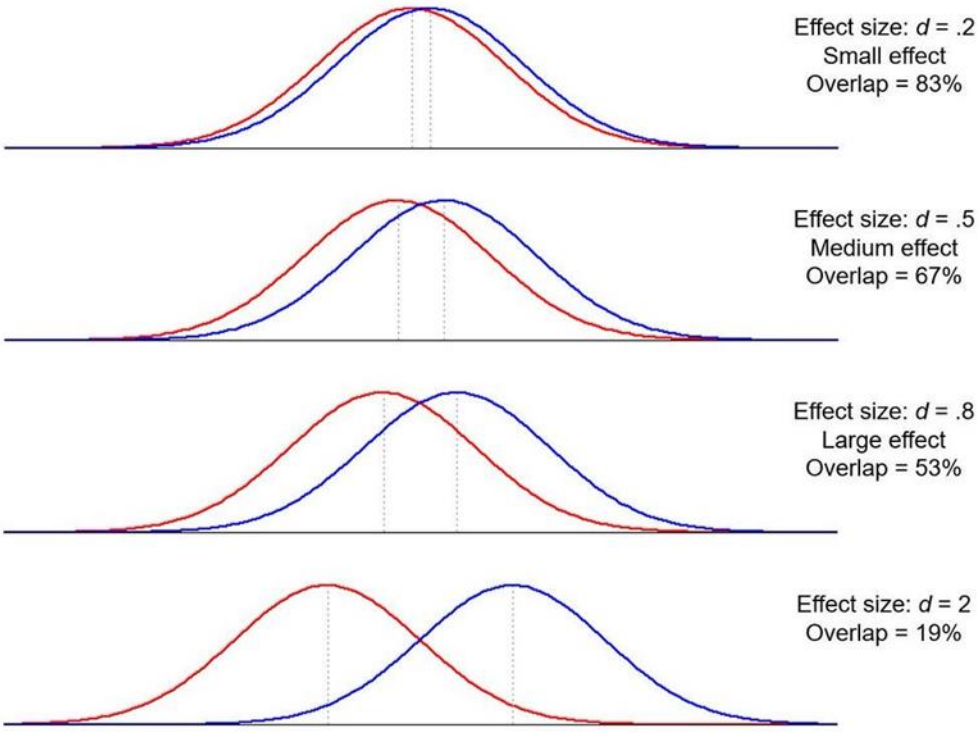

Figure 5.1 Cohen's d Effect Sizes (WordPress, 2019)

The rationale for this focus is to analyse the results that are statistically significant and which show at least moderate difference between the financial communications of the two industry groups. In other words, the aim is to assess, beyond chance, whether there is real effect size between the language features of the financial communications of the two industry groups. All other results that were either approaching or with no statistical significance are reported in the detailed results and analysis section in Appendix 7. In addition, some tables were merged to provide complementary results and ease of reading in this chapter, while the comprehensive listing of tables are reported in Appendix 8. In view of this, the results and analysis of the disclosures of the two industry groups with respect to their annual reports and

analysts' discussions are shown in sections in line with the order of stated hypotheses. The results are presented in tables as well as their explanations.

Results reported in Table 5.6 show the non-parametric statistically significant difference between the annual reports of low and high discretion industries. In differentiating between the annual reports of these industries, the results show that the coefficients of COMMONALITY, CERTAINTY, ACTIVITY, and REALISM are statistically significant (*p*-value < 0.01; *p*-value < 0.01; *p*-values < 0.01; *p*-value < 0.05, respectively). Accordingly, Hypotheses 1(a), 2(a), 3(a), and 4(a) are supported by these results. In other words, the results were as predicted from the deductive reasoning and theoretical arguments.

Table 5.6 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (Macro-level Analysis)

Master Variable	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
			Low	High	Low	High	
COMMONALITY	AR	0.000***	49.60	48.85	1.67	2.13	0.39
CERTAINTY	AR	0.000***	47.39	48.73	4.17	3.73	0.34
ACTIVITY	AR	0.002***	49.25	49.90	2.13	2.01	0.31
REALISM	AR	0.031**	53.88	53.10	2.47	2.78	0.30
Readability Score	AR	0.000***	30.92	27.44	7.99	7.81	0.44

***p*-value < 0.1; **p*-value <0.05; ****p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

5.2.1. COMMONALITY

It can be seen in Table 5.6 that with respect to the COMMONALITY Master Variable, the significance test (*p*-value = 0.000, *d* = 0.39) shows that there is a statistically significant difference between the annual reports of low and high discretion industries. Furthermore, this result shows that the COMMONALITY level in the annual reports of organisations in a low discretion industry is statistically significantly higher

than the COMMONALITY level observed for organisations in a high discretion industry, with the former having a mean COMMONALITY score of **49.60** (*SD* = 1.67) while the mean value for the latter stands at **48.85** (*SD* = 2.13)**.**

This result supports Hypothesis 1(a). Accordingly, the result suggests that the content of the CEO letters of organisations in the low discretion industry is indicative of language that conveys institutional regularities and/or substantive agreement on core values, behavioural interactions among industry participants that result in industry behaviour, and terms that describe the attitudinal similarities among the organisations within the low discretion industry. It suggests that the organisations within the low discretion industry are more likely to communicate with "language highlighting the agreed-upon values", interaction and cooperation (Hart & Carroll, 2015, p. 10) within their industry category (*z* = 0.01*)*, while "rejecting idiosyncratic modes of engagement (p. 10).

In contrast, this is not so for organisations within the high discretion industry (*z* = - 0.27*)*. Although the *z*-scores of the two industry groups are within the normal range, however, for the high discretion industry, the result shows that the content of CEO letters of the organisations within this industry category is more likely to be indicative of language that conveys an individual behaviour that seeks to differ from the established industry norm, in comparison to the low discretion industry. In view of this, such behaviour is indicative of organisational isolation (as opposed to industry engagement), the rejection of industry conventions (instead of shared common values), and the maximisation of individual organisation choice (Patelli & Pedrini, 2015).

It is noteworthy that the establishment of mutual understanding and cooperation with the target audience is the foundational basis of COMMONALITY. The results suggest that the CEOs of companies in the low discretion industry are more likely to use their financial communications to underline shared common values with their target audience. They seek engagement with their stakeholders for the purpose of creating a sense of community and advancing commitment toward common industry goals. In contrast, CEOs of companies in the high discretion industry are more prone to seek to reject social conventions while stressing their individual identity over industry norms. Prior studies emphasise that a deviation from shared common values is an indication of neuroticism (Brown & Treviño; 2006), which subsequently leads to unethical practices such as deception (Bligh & Hess, 2007; Patelli & Pedrini, 2015). According to Marsh (2013), seeking to establish mutual understanding, rapport, or engagement is a core value of ethical leadership. Consequently, leaders of organisations that emphasise the need for ethical practices invest efforts towards building relationships founded on continuous engagement with stakeholders (Marsh, 2013). In the same vein, ethical leaders consider the implications of their decisions and actions

on their target audience (Reed, Vidaver-Cohen, & Colwell, 2011), as well as establishing themselves as "builders of community" and better stewards of shareholder resources (Patelli & Pedrini, 2015, p. 8; Spears, 1995).

5.2.2. CERTAINTY

With respect to the CERTAINTY Master Variable, the level of significance (p = 0.000, d = 0.34) shows that there is a statistically significant difference between the annual reports of low and high discretion industries. Furthermore, this result shows that the CERTAINTY level in the annual reports of organisations in a high discretion industry is statistically significantly higher than the CERTAINTY level observed for organisations in a low discretion industry, with the former having a mean CERTAINTY score **48.73** (*SD* = 3.73, *z* = - 0.28) while the mean value for the latter stands at **47.39** (*SD* = 4.17, *z* = - 0.81)**.** This result supports Hypothesis 2(a). Although the *z*-scores of the two industry groups are within the normal range, nonetheless, the result suggests that the content of CEO letters of organisations in the high discretion industry is more likely to be indicative of language that conveys "resoluteness, inflexibility, completeness and a tendency to speak ex cathedra" (Hart & Carroll, 2015, p. 6).

Furthermore, the language of CERTAINTY in the CEO letters (as contained in the annual reports) of organisations in the high discretion industry is more prone to focus on financial communications that stresses precision, unwillingness to compromise, having a sense of assurance through approval and persuasion, and avoidance of hesitation in the expected or predicted performances of the organisations within the industry. The use of this language in the CEO letters conveys tenacity and insistence on the attainment of target performance, while reducing any signal of ambivalence in their communications to the shareholders. This study posits that the CEOs of companies in the high discretion industry are more likely to violate the legitimacy principle of discourse ethics by using language of inflexibility, completeness, and assurance in an environment that is not as complete, inflexible, and mature as those in the low discretion industry.

In contrast, the result for the low discretion industry suggests that the CEO letters of organisations within this industry are more likely to use language that expresses a lesser level of certainty, which could signal the unwillingness or inability of the CEOs to commit to the verbalisation being made. In view of this, the language of such CEOs could underline statements of inexactness, restrained possibility, mystery, and confusion. According to prior study, "…aggressive accounting practices are reflected in resolute language that indicates traits of authoritative and transactional leadership" (Patelli & Pedrini, 2015, p. 10). Due to the higher likelihood of inflexibility in the annual reports of CEOs in the high discretion industry and a focus on self-interest, the result emphasises that the CEOs of companies within this industry are more

prone to set a tone at the top that could advance towards unethical accounting practices. Similarly, Sama and Shoaf (2008) argue that transactional leaders are more likely to engage in unethical behaviours due to their primary focus on transactions and profitability.

In line with the findings of Patelli & Pedrini (2015), the "resoluteness of the language used in CEO letters as captured by CERTAINTY could indicate poor ethical leadership" (p. 7). Furthermore, the perspective from discourse ethics establishes that CERTAINTY in communication is a signal of a language that lacks legitimacy relative to the external context (Forester, 1980; Yuthas et al., 2002). Nevertheless, the application of the legitimacy principle is not universal, as it must be a function of the specific context under consideration. Patelli and Pedrini (2013) discuss the appropriateness of the legitimacy principle in the context of the worldwide economic downturn of 2008 and 2009. They suggest that it seems inappropriate to use language that conveys resoluteness and a sense of certainty in a context shaped by high financial instability. In uncertain environments, a flexible language seems more legitimate in order to seek stakeholder understanding rather than approval (Yuthas et al., 2002). In view of this, it seems appropriate for CEOs of organisations in the low discretion industry to communicate to their shareholders using more uncertain terms owing to many factors that affect their ability to deliver above-average market returns, one of which is attributable to the low growth potential experienced in their industry.

5.2.3. ACTIVITY

With respect to the ACTIVITY Master Variable, the level of statistical significance (p = 0.002, d = 0.31) shows that there is a significant difference between the annual reports of low and high discretion industries. Furthermore, this result shows that the ACTIVITY level in the annual reports of organisations in a high discretion industry is statistically significantly higher than the ACTIVITY level observed for organisations in a low discretion industry, with the former having a mean ACTIVITY score of **49.90** (*SD* = 2.01, z = - 0.28) while the mean value for the latter stands at **49.25** (*SD* = 2.13, z = - 0.43)**.** This result supports Hypothesis 3(a). Although the z-scores of the two industry groups are within the normal range, nonetheless, the result suggests that the language used in the CEO letters of organisations in the high discretion industry is more likely than an organisation in the low discretion industry to be characterised by terms that convey movement, change, the implementation of ideas and the avoidance of inertia. In the context of this study, such language embraces industry competition, forceful action, personal triumph, the expression of task-completion, and the avoidance of neutrality and inactivity. In view of this, the CEOs of companies in a high discretion industry are potentially more likely to place emphasis on their accomplishments by conveying narcissistic self-confidence. Specifically, it suggests that these CEOs are more prone to use their letters to shareholders to communicate overconfidence in their professional and uncompromising competence to deliver positive performance results and to implement strategic change.

Prior studies show that there is a relationship between ACTIVITY and leadership features of heroism (Badaracco, 2001), transformational change (Brown & Treviño, 2006), and self-confidence (Bénabou & Tirole, 2002). Specifically, Brown and Treviño (2006) explain that there is a tendency for leaders who advance transformational change to be engaged in unethical practices, particularly when they are driven by self-confidence. Although there is a positive impact of self-confidence on organisational performance and practices, yet, it is self-defeating when it advances towards overconfidence (Bénabou & Tirole, 2002). Schrand and Zechman (2012) highlight that there is a strong correlation between overconfidence of CEOs and financial restatements. Supported by literature on ethical leadership, overconfidence leads to the search for attention by engaging bold decisions, that would otherwise, be considered as unfeasible by most people (Kets de Vries, 2003). In addition, Chen (2010) shows that accounting frauds are more likely to be committed by overconfident leaders. This overconfidence is likely to undermine the fundamental credibility and quality of financial reporting (Patelli & Pedrini, 2015). The standpoint of this study is that the promise of the delivery of overly high performances by industries with high level of discretion can be understood through their potential aggressive financial communications.

In contrast, the result for the low discretion industry are more muted and shows that the CEO letters of organisations within this industry are more likely to use language that conveys neutrality, lesser levels of activity, and the acceptance of inertness, which suggests the potential unwillingness or inability of the CEOs to display overconfidence, be forceful, and with less emphasis on their accomplishments. It shows that the CEOs of companies in the low discretion industry are more likely to use this language to communicate their potential commitment to status-quo, the unwillingness or inability to drive movement, organisational or performance change, and the implementation of ideas (McClelland et al., 2010). Prior study shows that ethical leaders are less likely to be driven by heroic representations of their actions and decisions (Badaracco, 2001). Notwithstanding, they ensure that their organisations undertake change in a patient, careful, and incremental way. Hence, this study emphasises that the CEOs of organisations in the low discretion industry understand the dynamics of their industry with respect to growth prospects, and are more likely to drive organisational performance in a patient, careful, incremental, and ethical way.

5.2.4. REALISM

With respect to the REALISM Master Variable, the test shows that there is a statistically significant difference (p = 0.031, d = 0.30) between the annual reports of low and high discretion industries. Furthermore, this result shows that the REALISM level in the annual reports of organisations in a low discretion industry is statistically significantly higher than the REALISM level observed for organisations in a high discretion industry, with the former having a mean REALISM score of **53.88** (SD = 2.47, z = 1.39) while the mean value for the latter stands at **53.10** (SD = 2.78, z = 1.15)**.** This result supports

Hypothesis 4(a). Interestingly, the *z*-scores of the two industry groups are above the normal range, meaning the CEO letters in the annual reports of the two industry groups are not characterised by complex language. Nonetheless, the result indicates that the content of the CEO letters of organisations in the low discretion industry is more likely to be characterised by language that conveys more tangible, immediate, recognisable matters that affect the shareholders' everyday lives.

In the context of this study, a lower level of REALISM signifies complexity of the language used by CEOs in communicating with shareholders, while a higher value facilitates readability and makes the CEO letters readable and understandable. As the REALISM score of the low discretion industry is statistically significantly higher than the score of the high discretion industry, it suggests that the CEO letters of companies in the low discretion industry are more likely to be easily read and understood than those disclosed by companies in the high discretion industry. While the REALISM scores for both industry groups are significantly higher values than the DICTION mean (49.36) for REALISM, this could be attributable to difference in time, place, and regulation that may not be captured by DICTION. Nonetheless, this does not detract from the results as they are primarily comparing high and low industry groups and not to the DICTION mean.

Patelli and Pedrini (2015) note that when complex lexicons are used in CEO letters to shareholders, it is a significant predictor of potential aggressive financial reporting. Similarly, Merkl-Davies and Brennan (2007) posit that the 'ease of reading' of a text is an area that is susceptible to rhetorical manipulation by using impression management tactics. Furthermore, Li (2008) emphasises that top management can use corporate narratives to manipulate and deceive investors when complex language is used in structuring those narratives. This is usually the case when they need to divert the attention of shareholders from unfavourable performance results (Courtis, 1986, 1998; Lehavy et al. 2011; Li, 2008; Patelli & Pedrini, 2015). Therefore, familiar and concrete language in CEO letters as highlighted by the REALISM variable indicate faithful representation of performance results, while the use of complex lexicons in corporate narratives is a violation of the principle of comprehensibility in discourse ethics (Forester, 1980). To facilitate the mutual understanding of CEOs and the shareholders, the content of the CEO letters should be comprehensible and transparent (Patelli & Pedrini, 2015), a lack of which is a signal of potential ethical lapses with accompanying consequences for the financial reporting function (Schaubroeck et al. 2012).

5.2.5 Flesch Reading Ease and Flesch-Kincaid Readability Grade

With respect to the annual reports, the readability scores show a non-parametric statistically significant difference (p = 0.000, d = 0.44) between the readability scores of the annual reports of low and high discretion industries. In addition, the mean readability scores of the low and high discretion industries are

30.92 (*SD* = 7.99) and **27.44** (*SD* = 7.81), respectively. Accordingly, the results mean that it is easier to read and understand annual reports published by companies in the low discretion industry than those published by companies in the high discretion industry. This result aligns with the stated Hypothesis 7(a). However, the readability scores observed for both industries' annual reports are well below **40.0**, a signal that both industries potentially make it difficult for their shareholders to read and understand the content of CEO letters published in annual reports.

Table 5.7 Non-Parametric Test of Statistical Significance between Flesch Index Scores of the Two Document Types (Annual Reports vs Analysts' Discussions)

Flesch Index Scores	Document Type	Kruskal-Wallis Sig. Test	Mean Values	Standard Deviation	Cohen's *d*
Readability Score	AR – LD	0.000***	30.92	7.99	3.71
	AD – LD		58.54	6.84	
Readability Grade	AR – LD	0.000***	14.62	1.97	2.92
	AD – LD		9.49	1.51	
Readability Score	AR – HD	0.000***	27.44	7.81	4.21
	AD – HD		58.12	6.71	
Readability Grade	AR – HD	0.000***	15.15	1.62	3.61
	AD – HD		9.65	1.42	
Readability Score	Agg.AR - L&H	0.000***	29.18	8.08	3.91
	Agg.AD - L&H		58.35	6.78	
Readability Grade	Agg.AR - L&H	0.000***	14.89	1.82	3.21
	Agg.AD - L&H		9.57	1.47	

***p*-value < 0.1; ****p*-value <0.05; *****p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

Agg.AR – Aggregated Annual Reports
Agg.AD – Aggregated Analysts' Discussions

L&H : L = Low Discretion; H = High Discretion

As explained in the methodology chapter on the genre of text, the results in Table 5.7 show that the readability score of the analysts' discussions (Mean = **58.54**, SD = **6.84**) of companies in the low discretion industry is statistically significantly higher (p = 0.000, d = 3.71) than those of the annual reports (Mean = **30.92**, SD = **7.99**) disclosed within the same industry category. This is in line with Hypothesis 8(a). Similarly, the readability grade of the annual reports of companies (Mean = **14.62**, SD = **1.97**) in the low discretion industry is statistically significantly higher (p = 0.000, d = 2.92) than those of the analysts'

discussions (Mean = **9.49**, SD = **1.51**) disclosed within the same industry. This is in line with Hypothesis 8(b). On the other hand, the readability score of the analysts' discussions (Mean = **58.12**, SD = **6.71**) of companies in the high discretion industry is statistically significantly higher (p = 0.000, d = 4.21) than those of the annual reports (Mean = **27.44**, SD = **7.81**) disclosed within the same industry. This is in line with Hypothesis 8(c). Similarly, the readability grade of the annual reports of companies (Mean = **15.15**, SD = **1.62**) in the high discretion industry is statistically significantly higher (p = 0.000, d = 3.61) than those of the analysts' discussions (Mean = **9.65**, SD = **1.42**) disclosed within the same industry. This is in line with Hypothesis 8(d).

Furthermore, the results show the readability scores and readability grades across the two document types - an aggregated readability score of annual reports of high and low discretion industries, in comparison with the aggregated score of analysts' discussions of the two industries. The rationale for this approach was to understand the form of financial communication that is more susceptible to potential manipulation with respect to the readability and comprehensibility of corporate financial communication. The results show that there is a statistically significant difference (p = 0.000, d = 3.91) between the aggregated readability scores of CEO letters in annual reports of the two industries in comparison with the combined readability scores of the transcripts from analysts' discussions of the two industries combined together. This means that it is easier to read and understand transcripts from analysts' discussions from either of the industries than the CEO letters to shareholders in annual reports of the industry groups combined together. This is in line with Hypothesis 8(e). Interestingly, the aggregated mean readability scores of analysts' discussions of the industry groups stand at **58.35** (SD = 6.78**)** a very high score compared with the readability score of **29.18** (SD = 8.08**)** of the annual reports for both industries.

These results align with the prediction that it is more difficult to read and understand CEO letters to shareholders in annual reports than narratives made to analysts in earnings conference calls. This study posits that there is the potential for the leadership of a company to make the content of CEO letters to shareholders more difficult to read and understand than the information it presents to experienced and expert analysts within the same period. Also, it posits that since earnings conference calls are conducted as a dialogue between two or more people, emphasis will be placed on the clarity of information provided for at least two reasons.

First, the more difficult it is to read and understand information provided by top management during analysts' discussions, the more it creates the room to be questioned back and forth to provide further information to clarify stated points. A situation that creates opportunity for analysts to dig deeper into the

affairs of a company - a possibility CEOs would potentially want to inhibit. Second, there would be no need to make the information difficult to understand when members of top management are dealing with those that have expert understanding of information provided to them. On the other hand, annual reports are presented as a monologue with limited opportunity to question certain elements of the CEO letters, which may appear difficult to read and understand. Hence, this study posits that top management will potentially target annual reports when it needs to obfuscate vital information from the users of this document type than it probably would when communicating with expert analysts, a task that can be aided by public relations specialists (Abrahamson & Hambrick, 1997).

With respect to the aggregated readability grade of the industry groups' forms of corporative narratives, the result shows there is a statistically significant difference (p = 0.000, d = 3.21) between the readability grades of the industry groups' annual reports and analysts' discussions. The rationale for this approach was to test which of the document types would require a higher education level in order to be able to read and understand their contents. Furthermore, the results show that the aggregated mean readability grades of analysts' discussions for the industry groups is **9.57** (*SD* = 1.47**)**, while that of annual reports is **14.89** (*SD* = 1.82**)**. This result aligns with Hypothesis 8(f). Accordingly, it indicates that a higher level of education would be required to read and understand the contents of annual reports than those of analysts' discussions. This further supports the reasoning that annual reports have potential to be targeted when top management intends to make their corporate narratives less transparent.

5.3 Micro-level of Analysis Using the Elements of Each Master Variable

Results reported in Tables 5.8 to 5.12 show the non-parametric statistically significant differences between the annual reports and analysts' discussions of low and high discretion industries, using the sub-features of each of the five Master Variables of DICTION. In total, there are 35 sub-features. Some of the sub-features increase the scores of each Master Variable, while there are those that reduce the scores of each Master Variable. The results observed are explained below for the sub-features of each Master Variable. Throughout this section, the notation "zL" is used to denote the z-score of the low discretion industry, while "zH" is used to denote the z-score of the high discretion industry. These scores are only included for the sub-feature scores that either reached a level of statistical significance at 5% and 1%. Furthermore, the notation "*zLg"* is used to denote the z-score of the low discretion industry during good times, while "*zLb"* is used to denote the z-score during bad times within the same industry. On the other hand, the notation "*zHg"* is used to denote the z-score of the high discretion industry during good times, while "*zHb"* is used to denote the z-score during bad times within the same industry. All the calculated z-scores are reported in Appendix 5. Again, the results reported in this section are those that are statistically significant and with a Cohen's *d* value of 0.2 and above.

Table 5.8 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (Micro-level Analysis) – COMMONALITY Master Variable

Sub-features of COMMONALITY	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Increase COMMONALITY Score			**Low**	**High**	**Low**	**High**	
Centrality	AR	0.003***	5.92	4.98	3.94	4.00	0.24
Cooperation	AD	0.030**	3.33	2.85	2.52	2.15	0.21
Items that Decrease COMMONALITY Score							
Diversity	AR	0.006***	1.89	2.48	1.38	1.85	0.36

***p*-value < 0.1; ****p*-value <0.05; *****p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

5.3.1. COMMONALITY

With respect to the sub-features that increase the COMMONALITY score, the coefficient of Centrality (p = 0.003, d = 0.24, zL = 0.49, zH = 0.19) shows a statistically significant difference between the annual reports of low and high discretion industries. Although the z-scores of the two industry groups are within the normal range, notwithstanding, the results align with the stated Hypothesis 1(e) that this sub-feature score will be significantly higher for companies in the low discretion industry than for those in the high discretion industry. With respect to the sub-features that decrease the COMMONALITY score, the coefficient of 'Diversity' shows statistically significant difference (p = 0.006, d = 0.36, zL = - 0.03, zH = 0.29) between the annual reports of low and high discretion industries. Furthermore, the result shows that the mean 'Diversity' scores of the annual reports of low and high discretion industries are **1.89** (SD = 1.38**)** and **2.48** (SD = 1.85**)**, respectively. It indicates this score will be higher for companies in the high discretion industry than for those in the low discretion industry, towards reducing the COMMONALITY score. This aligns with Hypothesis 1(i). With respect to the analysts' discussions, the result shows the level of 'Cooperation' is statistically significant (p = 0.03, d = 0.21, zL = - 0.26, zH = - 0.38). This is in line with Hypothesis 1(e).

Table 5.9 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (Micro-level Analysis) – CERTAINTY Master Variable

Sub-features of CERTAINTY	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Increase CERTAINTY Score			**Low**	**High**	**Low**	**High**	
Collectives	AD	0.025**	5.01	4.34	3.27	2.42	0.23
Insistence	AR	0.010**	69.39	80.81	43.42	43.93	0.26
Items that Decrease CERTAINTY Score							
Numerical Terms	AD	0.000***	13.49	10.89	7.94	6.33	0.36
Ambivalence	AR	0.005***	4.16	3.28	2.91	2.47	0.32
Self-Reference	AR	0.000***	2.47	1.61	3.19	2.56	0.30

***p*-value < 0.1; ***p*-value <0.05; ****p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

5.3.2. CERTAINTY

With respect to the sub-features that increase the CERTAINTY score, the coefficient of 'Insistence' shows a statistically significant difference (p = 0.01, d = 0.26, zL = 0.18, zH = 0.41) between the annual reports of low and high discretion industries. This result aligns with Hypothesis 2(e). This indicates that the 'Insistence' score of the annual reports of the high discretion industry is higher than for the low discretion industry. For the analysts' discussions, the results show that the coefficient of 'Collectives' show statistically significant difference (p = 0.025, d = 0.23, zL = - 0.81, zH = - 0.94). This result moves contrary to the direction of prediction. It indicates that companies in the low discretion industry have a likelihood to use more 'Collectives' than those in the high discretion industry. With reference to DICTION definition, it connotes that CEOs of companies in the low discretion industry use more singular nouns, connoting plurality that function to decrease specificity than those in the high discretion industry. With such definition, this study posits that this sub-feature (Collectives) is unlikely to affect the overall CERTAINTY score (which deals with resoluteness, inflexibility, and completeness), if a larger sample is tested. With a

larger sample, the inverse score may not produce a higher level of CERTAINY in the analysts' discussions of companies in the low discretion industry than those in the high discretion industry.

With respect to the sub-features that decrease the CERTAINTY score, the coefficients of 'Ambivalence' and 'Self-Reference' show statistically significant differences (p = 0.005, d = 0.32, zL = - 1.37, zH = -1.50; p = 0.000, d = 0.30, zL = - 0.55, zH = - 0.66, respectively) between the annual reports of low and high discretion industries. The results align with Hypothesis 2(i). Accordingly, it indicates that the scores will be higher for CEO letters of companies in the low discretion industry than for those in the high discretion industry, towards reducing the CERTAINTY score. For the analysts' discussions, the results show that the coefficient of 'Numerical Terms' shows statistically significant difference (p = 0.000, d = 0.36, zL = 0.79, zH = 0.44). Again, this result aligns with Hypothesis 2(i).

5.3.3. ACTIVITY

With respect to the sub-features that increase the ACTIVITY score, the coefficients of 'Aggression' and 'Motion' show statistically significant differences (p = 0.023, d = 0.21, zL = - 0.42, zH = - 0. 53; p = 0.045, d = 0.27, zL = - 0.15, zH = 0.10, respectively) between the annual reports of low and high discretion industries. With the exception of 'Aggression', the results align with Hypothesis 3(e). In other words, the results show that the sub-feature 'Motion' is significantly higher for the annual reports of companies in the high discretion industry than for those in the low discretion industry. With the inverse movement of the result observed for 'Aggression', this particularly has significant implication for the standpoint of this study that companies in the high discretion industry have the potential to communicate using aggressive language when compared with the conservative language used in the low discretion industry. Accordingly, this result observed for 'Aggression' in annual reports suggests that companies in the low discretion industry have the potential to communicate using language signifying competition and forceful action, industry domination, company triumph over their competitors, and resistance against external forces, when compared with those in the high discretion industry. This does not align with Hypothesis 3(e).

With respect to analysts' discussions, the results show that that the coefficients of 'Aggression', 'Accomplishment', and 'Communication' show statistically significant differences (p = 0.006, d = 0.24, zL = - 0.81, zH = - 0.71; p = 0.000, d = 0.29, zL = 0.11, zH = 0.33; p = 0.042, d = 0.25, zL = 0.33, zH = 0.08, respectively). With the exception of 'Communication', all other sub-feature scores align with the stated Hypothesis 3(e). Specifically, the result observed for 'Aggression' aligns with the standpoint of this study that the financial communications (analysts' discussions) of companies in the high discretion industry is

published using aggressive language when compared with the conservativeness in the corporate narratives published in the low discretion industry.

Table 5.10 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (Micro-level Analysis) – ACTIVITY Master Variable

Sub-features of ACTIVITY	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Increase ACTIVITY Score			**Low**	**High**	**Low**	**High**	
Aggression	AR	0.023**	3.58	3.12	2.11	2.26	0.21
	AD	0.006***	1.88	2.35	1.51	2.41	0.24
Accomplishment	AD	0.000***	15.37	17.43	7.13	6.88	0.29
Communication	AD	0.042**	8.57	7.39	5.67	3.80	0.25
Motion	AR	0.045**	1.95	2.46	1.53	2.17	0.27
Items that Decrease ACTIVITY Score							
Embellishment	AR	0.002***	0.98	0.74	1.17	0.53	0.27

***p-value < 0.1; **p-value <0.05; ***p-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

With the inverse result observed for 'Communication', this indicates there is a greater use of terms that emphasise face-to-face interactions between the company's executive and its stakeholders for companies in the low discretion industry. Although this inverse movement is likely to affect the ACTIVITY score in general, yet, it does not undermine the potential aggressive reporting of companies in the high discretion industry during analysts' discussions.

With respect to the sub-features that decrease the ACTIVITY score, the coefficient of 'Embellishment' shows there is significant statistical difference (p = 0.002, d = 0.27, zL = 0.67, zH = 0.18) between the annual reports of low and high discretion industries. Accordingly, it suggests that the CEOs of companies in the low discretion industry have the potential to communicate more using inactive language when compared to those in the high discretion industry. This is in line with stated Hypothesis 3(i).

5.3.4. REALISM

With respect to the sub-features that increase the REALISM score, the coefficient of 'Concreteness' shows statistically significant difference (p = 0.003, d = 0.34, zL = - 0.54, zH = - 0.74) between the annual reports of low and high discretion industries. This aligns with the Hypothesis 4(e).

This aligns with the prediction that companies in the low discretion industry are more likely to communicate with language that is tangible, material, and recognisable by their shareholders, as opposed to those used in the high discretion industry.

Table 5.11 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (Micro-level Analysis) – REALISM Master Variable

Sub-features of REALISM	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Increase REALISM Score			**Low**	**High**	**Low**	**High**	
Concreteness	AR	0.003***	14.83	13.03	5.56	4.95	0.34
Items that Decrease REALISM Score							
Past Concern	AR	0.005***	2.10	2.69	1.30	2.45	0.30
	AD	0.005***	3.49	3.99	2.12	2.46	0.22
Complexity	AR	0.000***	5.07	5.20	0.23	0.30	0.52

****p*-value < 0.1; ***p*-value <0.05; ****p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

With respect to sub-features that decrease the REALISM score, the coefficients of 'Past Concern' and 'Complexity' show statistically significant difference (p = 0.005, d = 0.30, zL = - 0.57, zH = - 0.34; p = 0.000, d = 0.52, zL = 1.53, zH = 1.97, respectively) between the annual reports of the two industries. Furthermore, the results observed support the prediction that companies in the high discretion industry are more likely to communicate with reference to past concerns, while they also have the potential to use the annual reports as a tool to make qualitative information on performance results complex for shareholders to read and understand. The results suggest that it is more complex to read and understand corporate narratives of companies in the high discretion industry than those in the low discretion industry. These results align with Hypothesis 4(i) as well as being similar to results of the Flesch Readability Index in Table 5.6. For discussions with analysts, the coefficient of 'Past Concern' show statistical significance

(p = 0.005, d = 0.22, zL = - 0.03, zH = 0.16) between the analysts' discussions of low and high discretion industries. This is in line with stated hypothesis as well as the results observed for annual reports.

5.3.5. OPTIMISM

For analysts' discussions, the coefficient of 'Praise' shows significant statistical difference (p = 0.000, d = 0.24, zL = 0.10, zH = 0.34) between the low and high discretion industries. This is in line with stated hypothesis with respect to the sub-features that increase the OPTIMISM score, and similar to the observation for annual reports. With respect to the sub-features that decrease the OPTIMISM score, the coefficient of 'Denial' shows statistically significant difference (p = 0.000, d = 0.32, zL = 1.10, zH = - 1.47, respectively) between the annual reports of low and high discretion industries. In other words, the CEOs of companies in the low discretion industry are more likely to use significantly higher level of language that connote negative contractions and negative function words in their annual reports to shareholders, as opposed to the language used by CEOs in the high discretion industry. This aligns with Hypothesis 5(i).

Table 5.12 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (Micro-level Analysis) – OPTIMISM Master Variable

Sub-features of OPTIMISM	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Increase OPTIMISM Score			**Low**	**High**	**Low**	**High**	
Praise	AD	0.000***	6.51	7.33	3.48	3.38	0.24
Items that Decrease OPTIMISM Score							
Denial	AR	0.000***	1.10	0.74	1.16	1.05	0.32

***p*-value < 0.1; ***p*-value <0.05; ****p*-value <0.01

AR = Annual Report
AD = Analysts' Discussion

5.4 Comparison between the language features of DICTION 7.0 and LIWC 2015

In order to assess internal validity for the tests conducted using the five Master Variables of DICTION, another text analysis software was adopted known as Linguistic Inquiry and Word Count 2015 (hereafter, LIWC). The rationale for this approach was to compare the language features represented across the five Master Variables of DICTION 7.0 (hereafter, DICTION) with a set of select language categories in LIWC 2015. The selection of the language categories from LIWC was based on their similarity with those of DICTION. As shown in Table 4.1, a set of eleven (11) language categories were selected from LIWC with the aim of matching them with similar features in DICTION. Similar to the tests conducted using DICTION, the comparison was conducted across the two document types – CEO letters in annual reports and transcripts of CEO oral statements from analysts' discussions.

Table 5.13 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (LIWC)

LIWC Category	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
			Low	**High**	**Low**	**High**	
Tone	AR	0.008***	79.22	83.56	13.96	11.64	0.34
	AD	0.000***	69.96	78.19	12.16	10.67	0.72
First Person Singular Pronoun	AR	0.000***	0.36	0.21	0.45	0.31	0.39
Positive Emotion	AD	0.000***	2.98	3.43	0.70	0.71	0.65
Negative Emotion	AR	0.000***	0.69	0.48	0.37	0.43	0.52
	AD	0.000***	0.55	0.46	0.24	0.24	0.36
Achievement	AR	0.000***	3.62	4.10	1.06	1.04	0.46
	AD	0.000***	2.17	2.50	0.70	0.74	0.47
Risk	AR	0.000***	0.45	0.34	0.29	0.34	0.33
Motion	AR	0.032**	2.83	3.06	0.73	0.89	0.28
	AD	0.000***	2.53	2.78	0.61	0.58	0.42

***p*-value < 0.1; ***p*-value <0.05; ****p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

Results reported in Table 5.13 show the descriptive statistics and non-parametric statistically significant differences between the annual reports and analysts' discussions of low and high discretion industries,

by comparing some sub-features of DICTION with those of LIWC as aforementioned. For the purpose of this study, the published Grand Mean and Standard Deviation figures were adopted as representative of the standardised scores of LIWC. The results in Table 5.13 shows there is a statistically significant difference (p = 0.008, d = 0.34, zL = 1.07, zH = 1.26) between the level of 'Tone' - a measure of the positivity or negativity of words (Henry (2008), contained in the annual reports of companies in the high discretion industry in comparison to those in the low discretion industry. This is line with Hypothesis 6(a).

Similarly, the results observed for the 'Tone' level in the analysts' discussions show that there is a statistically significant difference (p = 0.000, d = 0.72, zL = 0.68, zH = 1.03) between the 'Tone' levels of CEO statements of companies in the low and high discretion industries. This is in accord with the results observed for the difference in Tone levels in the annual reports of the companies in the low and high discretion industries. Accordingly, the results observed for both annual reports and analysts' discussions suggest that the CEOs of companies in the high discretion industry have the potential to build the element of 'Tone' in their financial communications with both shareholders and analysts more than the CEOs of companies in the low discretion industry. This is particularly so for the high discretion industry with a 'Tone' z-score which is above the normal range during discussions with analysts.

Henry (2008) introduced a novel approach in the measurement of 'Tone' in written text in terms of the positivity and negativity of words used by the author of a text. In her study, it was emphasised that the level of 'Tone' increases as the proportion of positive words exceed negative words in a given text. The standpoint of this study is that there is the potential for aggressive reporting in the financial communications of companies in the high discretion industry. In the same vein, with a potentially high level of certainty demonstrated by top managers in such industry towards the delivery of predicted high performance results, there is the likelihood for careful selection of positive words that would underlie their ability to and insistence on delivering such expectations.

For a higher level of 'Tone' to be maintained, there is the potential for the CEOs of companies in a high discretion industry to carefully select positive words while avoiding communicating with negative words that would otherwise undermine their ability to deliver high performance expectations. Contrastingly, for companies in the low discretion industry, this study posits that there is the potential for their CEOs to communicate using less aggressive, or rather conservative language, due to the already known lower growth prospects for companies in the low discretion industry. Accordingly, there is the likelihood for the CEOs of companies in the low discretion industry to either conservatively use positive words or use more negative words to emphasise their performance results in their financial communications, thereby

resulting in a significantly lower level of 'Tone' in comparison to those observed for companies in the high discretion industry.

By triangulating 'First Person Singular Pronoun' language category of LIWC with a sub-feature of DICTION Master Variable 'CERTAINTY', it is by definition similar to the sub-feature 'Self-reference'. The result shows that there is statistically significant difference (p = 0.000, d = 0.39, zL = - 1.88, zH = - 1.94) in the use of self-reference between the annual reports of the low and high discretion industries. Furthermore, the result indicates that the CEOs of companies in the low discretion industry are more likely to use 'First Person Singular Pronouns' in their annual reports than those in the high discretion industry. Similarly, for the results observed using the sub-feature 'Self-reference' in DICTION, the result also shows that there is statistically significant difference (p = 0.000, d = 0.30, zL = - 0.55, zH = - 0.66) between the use of 'Self-reference' in the annual reports of low and high discretion industries, with the former having a higher mean value. This aligns with the prediction made and in line with the results observed for the DICTION sub-feature.

Prior research on deceptive narratives have argued that analysing for the use of self-reference can provide indication of deceptive communication and blame shifting (Churyk et al. 2009; Keila and Skillicorn, 2005; Zhou, Burgoon, Nunamaker, & Twitchell, 2004). Specifically, Bournois and Point (2006) contend that it is an important tactical move when there is a sudden transition from the use of the first-person singular pronouns to the first-person plural pronouns. In the same vein, studies of blame shifting have suggested that during the course of unfavourable events, there is likely to be an increase in the use of first-person plural pronouns. An individual is "less likely to blame themselves [in such a situation], so they speak about their accomplice[s] in addition to themselves" (Morrow, 2008, p. 20). On the other hand, Craig et al (2013) found a distinctive result for the use of self-reference in the confession letter of the Chairman of the Indian multi-national company, Satyam. They found that in the years prior to the revelation of the fraud there had been a sudden increase in the use of first-person plural pronouns from 44% (2002-2003) to 82% (2003-2004); 89% (2004-2005); 94% (2005-2006); 98% (2006-2007); and to 90% in 2007-2008 (the period before the revelation of fraud).

Interestingly, the percentage of first-person plural pronouns in the confession letter of the Chairman decreased significantly to 9%, meaning that the percentage of first-person singular pronoun increased to 91%, a trend that does not move in line with the blame shifting theory. Craig et al. (2013) conclude that this unusual transition signalled the Chairman's tactic in exonerating members of his family –who were members of the top management of the company, from the purported fraud, thereby taking the blame for the entire top management. It is noteworthy that in the years when the company reported favourable

financial performance, the Chairman used more first-person singular pronouns (as evidenced in the 56% first-person singular pronoun in 2002-2003), thereby attributing the performance of the company to himself. The results from Craig et al. (2013) suggest that it is possible for a single member of top management to acclaim both the favourable performance of a company to themselves or take sole responsibility for deceptive communication. This, again, is contrary to the blame shifting tactic in the transition from the first-person singular pronoun to the first-person plural pronoun.

In the context of this study, the results observed for the difference in the absolute level of use of 'Self-reference' between the annual reports of low and high discretion industry is not of prime interest. The significantly high level of 'Self-reference' in the annual reports of companies in the low discretion industry does not absolutely imply that there is a significantly high level of 'Collectives' in the annual reports of companies in the high discretion industry. In the same vein, a significantly lower level of 'Self-reference' in the annual reports of companies in the high discretion industry does not imply the CEOs of the companies in this industry will take collective responsibility when faced with either bad performances or allegations of fraudulent reporting. This study emphasises the position of Craig et al. (2013) that rather than make any meaning in the absolute level of use in first person pronouns, what should be of prime interest is 'the transition from a preponderance of singular first-person pronouns to plural first-person pronouns and vice versa…' (p. 10).

In addition, two language categories of LIWC - 'Positive Emotion' and 'Negative Emotion'- are triangulated with two sub-features 'Satisfaction' and 'Denial', respectively. The two sub-features are from the DICTION Master Variable 'OPTIMISM' and in line with the LIWC definitions for 'Positive Emotion' and 'Negative Emotion', respectively. For 'Positive Emotion', the result shows that there is a statistically significant difference (p = 0.000, d = 0.65, zL = - 0.42, zH = - 0.15) between the level of 'Positive Emotion' in the analysts' discussions of companies in the low and high discretion industries, with the latter having a higher mean value. This is in line with the prediction. Accordingly, the result suggests that the CEOs of companies in the high discretion industry have the potential to use more 'Positive Emotion' words in their financial communications than those in the low discretion industry. In comparison to the results observed for the sub-feature 'Satisfaction', the result moves in the same direction with that of 'Positive Emotion', although it did not reach a level of significance to distinguish between low and high discretion industries, with respect to both annual reports and analysts' discussions (p = 0.826; p = 0.190, respectively).

On the other hand, the result for 'Negative Emotion' shows that there is statistically significant difference (p = 0.000, d = 0.52, zL = - 1.06, zH = - 1.25) between the level of 'Negative Emotion' in the annual reports of low and high discretion industries, with the former having a higher mean value. This is in line

with the prediction. Furthermore, the result shows that there is a statistically significant difference (p = 0.000, d =0.36, zL = - 1.18, zH = - 1.27) between the level of 'Negative Emotion' in the analysts' discussions of the low and high discretion industries. This, again, is in line with the prediction. Accordingly, the results observed for both annual reports and analysts' discussions suggest that CEOs of companies in the low discretion industry have the potential to use more 'Negative Emotion' words in their financial communications than those in the high discretion industry. In comparison to the results observed for the sub-feature 'Denial', the result shows that there is a statistically significant difference (p = 0.000, d =0.32, zL = - 1.38, zH = - 1.47) between the level of 'Denial' in the annual reports of the low and high discretion industries, with the former having a higher mean value. This result moves in the same direction as that of 'Negative Emotion'.

Prior research on the use of positive and negative emotion words suggest that individuals often experience emotional reaction when they try to engage in deceptive communication (Zuckerman, DePaulo, & Rosenthal, 1981). Similarly, Craig et al. (2013) contend that it is possible for such emotional reaction to be manifest in written communications, a view held in Larcker and Zakolyukina (2012). They concluded that in the course of presenting company performance in quarterly earnings conference calls, deceptive CEOs used more extreme positive emotion words and fewer extreme negative emotion words (Larcker & Zakolyukina, 2012). Furthermore, they emphasised that deceptive CEOs are more likely to feel very emotional – at least inwardly, while showing signs of guilt and fear of exposure. Similarly, Craig et al. (2013) argue that as the level of deception grows in an organisation's performance results, the CEO letters to shareholders would be used to underline the feeling of guilt and desire to protect the blossoming reputation of the CEO. This desire will be manifest in the choice of extreme positive words and extreme negative words.

In the context of this study, the prime focus is to assess and differentiate between the use of emotion words between the low and high discretion industries. In view of this, this study posits that the pressure on companies in the high discretion industry has the potential to create an environment where the CEOs are expected to deliver high performance results, specifically due to high growth expectations for companies in this industry grouping. Accordingly, there is the likelihood for the CEOs of companies in the high discretion industry to use all forms of impression management tactics and possible aggressive financial reporting measures to signal their ability to deliver market expectations. Indeed, as the scale and impact of analysts' expectations and market pressures increase, the CEOs of companies in the high discretion industry have the potential to use more extreme positive emotion words to underline their emotional responses to market expectations. On the other hand, due to the already-known lower growth prospects for companies in the low discretion industry, this study argues that the level of pressure on

companies in the low discretion industry to attain higher-than-normal performance results is not as high when compared to the pressure on companies in a high discretion industry. Accordingly, this has the potential to create a situation where the CEOs of companies in the low discretion industry use more extreme negative emotion words to underline their emotional responses to the dynamics of their market environment in comparison to companies in the high discretion industry.

Furthermore, the result for the language of 'Achievement' in the financial communications of low and high discretion industries was triangulated with the sub-feature 'Accomplishment' of the ACTIVITY Master Variable of DICTION, due to their similarity in definition. The results show that for both the annual reports (p = 0.000, d = 0.46, zL = 2.83, zH = 3.41) and analysts' discussions (p = 0.000, d = 0.47, zL = 1.06, zH = 1.46), there are statistically significant differences in the language of 'Achievement' between the low and high discretion industries, with the latter having higher mean values. These two results are as predicted that companies in the high discretion industry will significantly use more language of 'Achievement' in their financial communications than those in the low discretion industry. Similarly, the results for the sub-feature 'Accomplishment' shows, for the annual reports, that there is statistically significant difference (p = 0.024, d = 0.09, zL = 2.15, zH = 2.25) in the language of 'Accomplishment' between the low and high discretion industries. Again, the results observed for analysts' discussions show that there is statistically significant difference (p = 0.000, d = 0.29, zL = 0.11, zH = 0.33) in the language of 'Accomplishment' between the low and high discretion industries, with the latter having higher mean values. These two results are as predicted that companies in the high discretion industry will significantly use more language of 'Accomplishment' in their financial communications than those in the low discretion industry.

Looking again at Table 5.13, the results for the language of 'Risk' in the financial communications of low and high discretion industries were compared with the sub-feature 'Ambivalence' of the CERTAINTY Master Variable of DICTION. For the language of 'Risk', the result shows that there is statistically significant difference (p = 0.000, d = 0.33, zL = - 0.05, zH = - 0.32) between the annual reports of low and high discretion industries, with the former having a higher mean value. This is in line with the prediction that companies in the low discretion industry will significantly use more language of 'Risk' in their financial communications than those in the high discretion industry). For the sub-feature 'Ambivalence', the result shows that there is statistically significant difference (p = 0.005, d = 0.32, zL = - 1.37, zH = - 1.50) between the annual reports of the low and high discretion industries, with the former having a higher mean value. This, again, is in line with prediction and with the results for the language of 'Risk' as measured by LIWC.

Lastly, the result for the language of 'Motion' (also referred to as LIWC's 'Motion') in the financial communications of companies in the low and high discretion industries was compared with the the sub-feature 'Motion' of the ACTIVITY Master Variable of DICTION (also referred to as DICTION's 'Motion'). With respect to LIWC's 'Motion', the result shows that there is statistically significant difference (p = 0.032, d = 0.28, zL = 0.66, zH = 0.88) in the language of 'Motion' between the annual reports of the low and high discretion industries, with the latter having a higher mean value. This is in line with the prediction that there will be a higher level of the language of 'Motion' in the annual reports of companies in the high discretion industry than for those in the low discretion industry. In addition, the result also shows that there is statistically significant difference (p = 0.000, d = 0.42, zL = 0.37, zH = 0.61) in the language of 'Motion' between the analysts' discussions of the low and high discretion industries. Again, this is in line with the prediction that there will be a higher level of the language of 'Motion' in the analysts' discussions of companies in the high discretion industry than for those in the low discretion industry.

With respect to the sub-feature 'Motion' of the ACTIVITY Master Variable of DICTION, the result shows that there is statistically significant difference (p = 0.045, d = 0.17, zL = - 0.15, zH = 0.10) in the language of 'Motion' between the annual reports of the low and high discretion industries, with the latter having a higher mean value. This is in line with prediction and also aligns with the results observed for LIWC's 'Motion' in annual reports. For the analysts' discussions, the result is in line with the prediction and also aligns with the results observed for LIWC's 'Motion' in analysts' discussions, and was approaching a level of significance (p = 0.086, d = 0.10, zL = 0.79, zH = 0.91) to differentiate between the language of 'Motion' between the analysts' discussions of the low and high discretion industries.

5.5 Analysis for the 'Good and Bad' Performance Periods

In this study, additional tests were conducted to determine the language characteristics of companies in both low and high discretion industries during periods of good and bad performance results. These tests were conducted using all the five DICTION Master Variables and sub-features, Flesch Reading Ease, Flesch-Kincaid Readability Grade, and some eleven (11) LIWC language categories. This was done for the purpose of extracting the language features that help inform how the CEOs of companies in both industries engage financial communication strategies towards expressing the performance results of their companies during good and bad times. This is particularly useful for auditors, entity risk assessors, regulators, and vigilant shareholders in understanding potential financial disasters through the qualitative financial information provided by CEOs of companies.

For the purpose of differentiating between good and bad times, the Actual Net Income of the companies in both low and high discretion industries were compared with Consensus Net Income Estimates for each

of the relevant periods 2011-2015 (for 43 companies) and 2014-2018 (for 17 companies). The comparison between the Actual Net Income and Consensus Net Income Estimates creates another measure known as Net Income Surprise. For the purpose of this study, this was measured as [(Actual Net Income – Consensus Net Income Estimate) ÷ Consensus Net Income Estimate]. In simple terms, the Actual Net Income is the Net Income reported by each company according to Generally Accepted Accounting Principles (GAAP) for each accounting period, while the Consensus Net Income Estimate is a prediction of Net Income made by analysts, which is expected to be earned by a company during a particular accounting period. The Net Income Surprise is a percentage measure and it shows to what degree the Actual Net Income as reported by a company deviates from the predicted Consensus Net Income Estimates made by analysts for that particular period. For the purpose of this study, a general rule was adopted for clearly differentiating between good and bad performance results using a 10% rule, which was discussed at the methodology stage.

The categorisation of the performance of each of the companies for each of the periods into good and bad times is shown in Appendix 6. Across the five-year period on either side of the industry groups, a total of fifty-three (53) net income reports align to the definition of bad financial performance for companies in the low discretion industry, while a total of eight (8) net income reports align to the definition of bad financial performance for companies in the high discretion industry. For both industry groups, there are 150 annual reports on each side. Furthermore, analysis was conducted at four different levels using the five Master Variables of DICTION, the Flesch-Kincaid Readability Measures, all the sub-features of the five Master Variables of DICTION, and how some of these sub-features compare to some 11 language categories of LIWC.

First, comparison was conducted on how low and high discretion industries communicate during good times. Second, how they compare in their financial communications during bad times. Third, how companies within the low discretion industry communicate during good and bad times, and to examine the average effect size (using Cohen's *d*) of the differences in their financial communications between the two economic situations. Lastly, how companies in the high discretion industry communicate during good and bad times, and to examine the average effect size (using Cohen's *d*) of the differences in their financial communications between the two economic situations. The rationale for comparing their average effect sizes is to analyse for their attentional homogeneity (isomorphism) or heterogeneity. Accordingly, the results observed for the financial communications of the low and high discretion industries are explained at the Macro level of Analysis, Flesch Reading Ease and Flesch-Kincaid Readability Grade, Micro-level of Analysis, and 11 LIWC language categories, hereafter.

Results reported in Table 5.14 show the descriptive statistics and non-parametric statistically significant difference between the annual reports and analysts' discussions of low and high discretion industries, during good times. In differentiating between the annual reports of these two industry groupings, the results show that the coefficients of COMMONALITY, CERTAINTY, ACTIVITY, and REALISM are statistically significant. Accordingly, Hypotheses 1(b), 2(b), 3(b), and 4(b) are supported by these results. They were as predicted and similar with those observed without differentiating between good and bad times.

With respect to the Flesch Reading Ease, the result shows that there is statistically significant difference (*p*-value = 0.001, *d* = 0.49) between the readability scores of the annual reports of companies in the low and high discretion industries. This is in line with Hypothesis 7(c). Similarly, the results show that for both annual reports and analysts' discussions, there are statistically significant differences (*p*-value = 0.023, *d* = 0.38; *p*-value = 0.019, *d* =0.20, respectively) between the readability grades of the two financial communication documents of companies in the low and high discretion industries. Again, this is in line with Hypothesis 7(d). Accordingly, the implications of the above results are explained below.

Tables 5.14 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (Macro-level Analysis) – Good Times

Master Variable	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
			Low	High	Low	High	
COMMONALITY	AR	0.002***	49.55	48.90	1.80	2.15	0.32
CERTAINTY	AR	0.023**	48.03	48.89	3.61	3.64	0.24
ACTIVITY	AR	0.002***	49.12	49.92	2.07	2.03	0.39
REALISM	AR	0.033**	53.96	53.03	2.54	2.82	0.35
Readability Score	AR	0.001***	31.30	27.34	8.24	7.79	0.49
Readability Grade	AR	0.023**	14.46	15.14	2.00	1.49	0.38
	AD	0.019**	9.40	9.69	1.62	1.43	0.20

***p*-value < 0.1; **p*-value <0.05; ****p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

For COMMONALITY, the result shows that with a net income surprise that is positive and not significantly negatively different from the expectations of the market, the level of COMMONALITY in the annual reports of companies in the low discretion industry is statistically significantly higher (p = 0.002, d = 0.32, zL = - 0.01, zH = - 0.25) than those in the high discretion industries. This is in line with Hypothesis 1(b). During good times, the result suggests that companies in the low discretion industry are more likely to communicate using language that highlights institutional regularities, substantive agreement on core values and group product, in their annual reports than those in the high discretion industry. Accordingly, this suggests that companies in the high discretion industry may be more likely to use language that signifies deviation from commonly used accounting principles in explaining how they were able to individually attain the level of Net Income expected of them by the market. This could have the potential to create a culture of aggressively recognising income that could otherwise be reported in periods when they become earned.

For CERTAINTY, the result shows that during good times, the level of CERTAINTY in the annual reports of companies in the high discretion industry is statistically significantly higher (p = 0.023, d = 0.24, zL = - 0.55, zH = - 0.21) than those in the low discretion industry. This is in line with Hypothesis 2(b). During good times, the result suggests that companies in the high discretion industry are more likely to communicate using language that indicates resoluteness, completeness, precision, and the avoidance of hesitation, which demonstrates their ability to meet or exceed target expectations, in their annual reports than those in the low discretion industry. Accordingly, this suggests that companies in the high discretion industry have the potential to use language that signifies authoritative leadership that is unwilling to compromise, with accompanying sense of assurance, which seeks approval and prides itself on persuasion. This is demonstrated through the use of tight control mechanisms that undervalues ethical behaviour in exchange for self-interest (Turner et al., 2002). Sama and Shoaf (2008) posit that as authoritative leaders focus more on transactions and profitability, they are more likely to resort to unethical behaviours. Accordingly, the result observed for the level of CERTAINTY in the annual reports of the two industries suggests that companies in the high discretion industry are potentially more likely to engage in unethical recognition of income and unethical financial reporting when communicating how they attain the level of income expected of them by the market.

With respect to ACTIVITY, the result shows that during good times, the level of ACTIVITY in the annual reports of companies in the high discretion industry is statistically significantly higher (p = 0.002, d = 0.39, zL = - 0.46, zH = - 0.27) than those in the low discretion industry. This is in line with Hypothesis 3(b). During good times, the result suggests that companies in the high discretion industry are more likely to communicate using language that indicates competition, forceful action, and the avoidance of inertia, in

their annual reports, than those in the low discretion industry. Accordingly, this suggests that companies in the high discretion industry have a higher potential to use language that emphasises overconfidence in their ability to pioneer change and deliver positive performance results. This language reveals traits of heroism (Badaracco, 2001), self-confidence (Bénabou & Tirole, 2002), and transformational change (Brown & Treviño, 2006). Specifically, Brown and Treviño note that when driven by self-confidence, leaders who seek transformational change can resort to unethical behaviours. In the same vein, Badaracco (2001) argues that the pursuit of heroism is not the primary focus of ethical leaders, who would seek to establish change patiently, carefully, and incrementally. The result suggests that companies in the high discretion industry are more likely to demonstrate a higher level of aggression in their annual reports to the extent that it could reveal the potential for companies in this industry to engage in unethical practice.

For REALISM, the result shows that during good times, the level of REALISM in the annual reports of companies in the low discretion industry is statistically significantly higher (p = 0.033, d = 0.35, zL = 1.41, zH = 1.13) than those in the high discretion industry. This is in line with Hypothesis 4(b). During good times, the result suggests that companies in the low discretion industry are more likely to communicate using language that seeks to identify what is recognisable to the stakeholders in their industry, as opposed to what is considered implausible or unfamiliar to them. On the other hand, the result suggests that companies in the high discretion industry are more likely to use language that are less likely to depict tangible, immediate, and recognisable matters that conform to the reality of things commonly known to their stakeholders. This is particularly facilitated through the use of complex terms, long sentences, and uncommon terminology (Patelli & Pedrini, 2015). The emphasis on REALISM reflects the level of ease of reading of corporate narratives, which, conventionally, is prone to rhetorical manipulation, based on the insight from impression management theory (Merkl-Davies & Brennan, 2007). Similarly, Li (2008) stresses that the use of complex language in corporate narratives is a strategy that has the potential to be used in deceiving investors. Hence, the result observed for REALISM in this study suggests that companies in the high discretion industry are more likely to rhetorically manipulate the content of annual reports than those in the low discretion industry.

Reflecting on the Flesch Readability Score, the result shows that during good times, the readability score of the annual reports is statistically significantly higher (p = 0.001, d = 0.49) for companies in the low discretion industry than for those in the high discretion industry. This is in line with Hypothesis 7(c). During good times, the result suggests that it is easier to read and understand the annual reports of companies in the low discretion industry than those in the high discretion industry. Furthermore, the readability grades for both annual reports and analysts' discussions are statistically significantly higher (p = 0.023,

d = 0.38; *p* = 0.019, *d* = 0.20, respectively) for companies in the high discretion industry than for those in the low discretion industry. Again, this is in line with Hypothesis 7(d). During good times, the result suggests that a higher level of education will be required to read and understand the annual reports and analysts' discussions of companies in the high discretion industry than for those in the low discretion industry.

Table 5.15 shows the results for both annual reports and analysts' discussions of low and high discretion industries, during bad times. In differentiating between the annual reports of these two industry groupings, the results in Table 5.15 show that that the coefficient of COMMONALITY is statistically significant (*p*-value = 0.007, *d* = 1.17, *zL* = 0.04, *zH* = - 0.74) in differentiating between the annual reports of companies in the low and high discretion industries. This is in line with Hypothesis 1(b). Similarly, in differentiating between the analysts' discussions of these industries, the coefficient of COMMONALITY shows statistically significant difference (*p*-value = 0.025, *d* = 0.48, *zL* = - 0.28, *zH* = - 0.61) between the analysts' discussions of companies in the low and high discretion industries. Again, this is line with Hypothesis 1(b). With respect to Flesch Reading Ease, the result shows that for analysts' discussions, there is statistically significant difference (*p*-value = 0.041, *d* = 0.60) between the readability scores of the analysts' discussions of companies in the low and high discretion industries. However, this is contrary to the prediction. Accordingly, the implications of the above results are explained below.

With respect to COMMONALITY, the results show that with a negative net income surprise, the level of COMMONALITY in both the annual reports and analysts' discussions of companies in the low discretion industry is statistically significantly higher (*p*-value = 0.007, *d* = 1.17, *zL* = 0.04, *zH* = - 0.74; *p*-value = 0.025, *d* = 0.48, *zL* = - 0.28, *zH* = - 0.61, respectively) than those in the high discretion industry. These results are in line with Hypothesis 1(b). During bad times, the results suggest that companies in the low discretion industry have a higher potential to communicate using language that highlights institutional regularities, substantive agreement on core values and group product, in both annual reports and analysts' discussions than those in the high discretion industry. Interestingly, the effect size of the difference between the COMMONALITY level in the annual reports during bad times (*d* = 1.17) is very high compared to the effect size during good times (*d* = 0.32) between the two industry groups. This is the similar for discussions with analysts as the effect size for bad times (*d* = 0.48) is higher than during good times (*d* = 0.07).

Table 5.15 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (Macro-level Analysis) – Bad Times

Master Variable	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
			Low	High	Low	High	
COMMONALITY	AR	0.007***	49.68	47.56	1.42	1.60	1.17
	AD	0.025**	48.81	47.92	2.35	1.22	0.48
Readability Score	AD	0.041**	57.69	61.35	6.79	5.23	0.60

***p*-value < 0.1; ****p*-value <0.05; *****p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

Specifically, it shows that the annual reports and analysts' discussions of companies in the low discretion industry have a higher mean value of COMMONALITY during bad times (**49.68** and **48.81,** respectively) than in good times (**49.55** and **48.07**, respectively). In contrast, the annual reports and analysts' discussions of companies in the high discretion industry have a lower mean value of COMMONALITY during bad times (**47.56** and **47.92,** respectively) than in good times (**48.90** and **48.24**, respectively). Accordingly, this suggests that companies in the low discretion industry are more likely to use language that signifies agreement with using common accounting principles and narratives in explaining the common problems they encounter that makes it difficult to collectively attain the level of Net Income expected of them by the market, which further advances their isomorphism. On the other hand, it shows that during bad times, companies in the high discretion industry have a greater potential to be less isomorphic or with a higher likelihood to be heterogeneous, by deviating from using common accounting principles and financial narratives commonly available in their industry.

Considering the Flesch Reading Ease, the result shows that during bad times, the readability score of the analysts' discussions is statistically significantly higher (p = 0.041, d = 0.60) for companies in the high discretion industry than for those in the low discretion industry. This is contrary with Hypothesis 7(c). During bad times, the results suggest that it is easier to read and understand the analysts' discussions of companies in the high discretion industry than those in the low discretion industry. This is particularly interesting as the readability score for the analysts' discussions of companies in the high discretion industry was lower during good times (Mean = 57.93) in comparison to bad times (Mean = 61.35). On the other hand, the readability score of the analysts' discussions of companies in the low discretion was

higher during good times (Mean = 59.00) in comparison to bad times (M = 57.69). While the latter is in line with the prediction, the former is contrary to the prediction.

Accordingly, this study posits that while it is more difficult to read and understand the corporate narratives of companies in the high discretion industry in comparison to companies in the low discretion industry, this may likely have a further negative impact on the stakeholder community during bad times. Hence, the difficulty in their narratives may need to be reduced in a way that it makes it easier for their stakeholders to understand the reasons why they are experiencing bad performance results. Furthermore, the results show that for both low and high discretion industries, it is easier to read and understand their analysts' discussions in comparison to their annual reports. While the readability scores of the analysts' discussions of both industries sit in the region of "Easily Understood" on the readability scale, those of their annual reports are in the region of "Very Difficult to Read and Understand". This aligns with the initial position that the ease or difficulty of understanding corporate narratives is a function of the genre of text and the target audience.

Table 5.16 Non-Parametric Test of Statistical Significance between Good & Bad Times (Macro-level Analysis) – Low Discretion Industry

Master Variable	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
			Low (Good)	Low (Bad)	Low (Good)	Low (Bad)	
COMMONALITY	AD	0.016**	48.07	48.81	1.95	2.35	0.34
CERTAINTY	AR	0.006***	48.03	46.01	3.61	5.09	0.46
ACTIVITY	AD	0.002***	50.05	49.46	2.42	2.44	0.25
Average value					2.66	3.29	0.35

***p*-value < 0.1; ***p*-value <0.05; ****p*-value <0.01

AR = Annual Report
AD = Analysts' Discussion

In differentiating between good and bad times, the result in Table 5.16 shows that the level of COMMONALITY in the analysts' discussions of companies with bad performance results is statistically significantly higher (*p*-value = 0.016, *d* = 0.34, *zLg* = - 0.55, *zLb* = - 0.28) than those with good financial results. Specifically, it shows that companies with good performance results have a lower level of

COMMONALITY (Mean = 48.07) than those with bad performance results (Mean = 48.81), within the same low discretion industry. This is in line with Hypothesis 1(c) to posit that companies in the low discretion industry will use more language of COMMONALITY when they experience bad performance results to underline a common problem and build a sense of community than when they do experience good performance results. Furthermore, the result shows that the level of CERTAINTY in the annual reports of companies with good performance results is statistically significantly higher (*p*-value = 0.006, *d* = 0.46, *zLg* = - 0.55, *zLb* = -1.35) than those with bad financial results.

Specifically, it shows that companies with good performance results have a higher level of CERTAINTY (Mean = 48.03) than those with bad performance results (Mean = 46.01), within the same industry. Again, this is in line with Hypothesis 2(c). This is particularly significant as it shows that the *z*-score of companies with bad financial performance sit well below the normal range of CERTAINTY in their annual reports. This is useful in investigating any company that uses a high level of the language of CERTAINTY in their financial communications during bad times. With respect to ACTIVITY, the result shows that the level of ACTIVITY in the analysts' discussions of companies with good performance results is statistically significantly higher (*p*-value = 0.002, *d* = 0.25, *zLg* = - 0.24, *zLb* = - 0.38) than those with bad financial results. Specifically, it shows that companies with good performance results have a higher level of ACTIVITY (Mean = 50.05) than those with bad performance results (Mean = 49.46), within the same industry. Again, this is in line with Hypothesis 3(c). Taken as a whole, the average *d*-value of 0.35 shows that there is a moderate difference between the financial communications of companies in the low discretion industry during good and bad times. This further lends credence to their isomorphic nature, regardless of the economic situation.

Table 5.17 shows that the level of CERTAINTY in the annual reports of companies with good performance results is statistically significantly higher (*p*-value = 0.018, *d* = 0.77, *zHg* = - 0.21, *zHb* = - 1.43) than those with bad performance results. Specifically, it shows that companies with good performance results have a higher level of CERTAINTY (Mean = 48.89) than those with bad performance results (Mean = 45.82), within the same high discretion industry. This is in line with Hypothesis 2(d). This study posits that the low level of CERTAINTY for companies with bad performance results complies with the principle of discourse ethics. Patelli and Pedrini (2015) posit that it is inappropriate to emphasise resoluteness and a sense of certainty during periods shaped by unfavourable economic situation. Hence, the companies with bad performance results use the low level of CERTAINTY to underline the uncertainty attributable to their poor performance.

Table 5.17 Non-Parametric Test of Statistical Significance between Good & Bad Times (Macro-level Analysis) – High Discretion Industry

Master Variable	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
			High (Good)	High (Bad)	High (Good)	High (Bad)	
CERTAINTY	AR	0.018**	48.89	45.82	3.64	4.31	0.77
REALISM	AD	0.005***	57.13	59.16	2.69	3.25	0.68
Readability Grade	AD	0.046**	9.69	9.00	1.43	1.08	0.54
Average value					2.59	2.88	0.66

***p*-value < 0.1; **p*-value <0.05; ****p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

Furthermore, the result shows that the level of REALISM in the analysts' discussions of companies with bad performance results is statistically significantly higher (*p*-value = 0.005, *d* = 0.68, *zHg* = 2.38, *zHb* = 3.01) than those with good performance results. Specifically, it shows that companies with bad performance results have a higher level of REALISM (Mean = 59.16) than those with good performance results (Mean = 57.13), within the same industry. This is contrary to Hypothesis 4(d). It connotes that companies with bad financial performance results have the potential to communicate more with a language that is familiar to their stakeholders than they would when they report good financial performance results.

In addition, the result for the Readability Grade on analysts' discussions show that there is statistically significant difference (*p*-value = 0.046, *d* = 0.54) between the readability grades of companies in the high discretion industry during good and bad times. Specifically, it shows that companies with good performance results have a higher readability grade (Mean = 9.69) than those with bad performance results (Mean = 9.00), within the same industry. Again, this is contrary to Hypothesis 7(h). This study posits that while it is more difficult to read and understand, at any time, the corporate narratives of companies in the high discretion industry, it may likely have a further negative impact on the stakeholder community during bad times. Therefore, the difficulty in their narratives may need to be reduced in a way that it makes it easier to read and understand their corporate narratives during bad times more than in

good times. Taken as a whole, the average *d*-value of 0.66 shows that there is a large difference between the financial communications of companies in the high discretion industry during good and bad times. This further lends credence to their heterogeneous nature.

5.6 Analysis for the Sub-features of the Five Master Variables during Good and Bad Times

Tables 5.18 to 5.30 show the results for the sub-features of each Master Variable of DICTION during good and bad times. The results are in the same order as those explained above.

Table 5.18 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (Micro-level Analysis) – Good Times

Sub-features of COMMONALITY	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Increase COMMONALITY Score			**Low**	**High**	**Low**	**High**	
Centrality	AR	0.031**	6.02	5.03	4.57	4.09	0.23
Items that Decrease COMMONALITY Score							
Liberation	AD	0.002***	0.85	0.63	1.31	0.89	0.20

***p*-value < 0.1; ***p*-value <0.05; ****p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

During good times, the result in Table 5.18 shows that for companies in the low discretion industry, the level of 'Centrality' in their annual reports is statistically significantly higher (*p*-value = 0.031, *d* = 0.23, *zL* = 0.52, *zH* = 0.21) than for companies in the high discretion industry. This is in line with Hypothesis 1(f) to posit that these sub-features will be statistically significantly higher to increase the COMMONALITY score of the annual reports of companies in the low discretion industry, than for those in the high discretion industry. For the sub-features that decrease the COMMONALITY score, the level of 'Liberation' in their analysts' discussions shows statistically significant difference (*p*-value = 0.002, *d* = 0.20; *zL* = - 0.49, *zH* = - 0.58) although it is contrary to Hypothesis 1(j).

During bad times, the result in Table 5.19 shows that for companies in the low discretion industry, the level of 'Centrality' in their analysts' discussions is statistically significantly higher (*p*-value = 0.005, *d* = 0.68, *zL* = - 0.29, *zH* = - 0.67) than for those in the high discretion industry. This is in line with Hypothesis

1(f) to posit that this sub-feature will be statistically significantly higher to increase the COMMONALITY score of the financial communications of companies in the low discretion industry, than for those in the high discretion industry.

Table 5.19 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (Micro-level Analysis) – Bad Times

Sub-features of COMMONALITY	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Increase COMMONALITY Score			**Low**	**High**	**Low**	**High**	
Centrality	AD	0.005***	3.43	2.22	2.15	1.33	0.68
Items that Decrease COMMONALITY Score							
Liberation	AR	0.010**	0.71	1.79	0.75	1.54	0.90

***p*-value < 0.1; *******p*-value <0.05; ********p*-value <0.01

AR = Annual Report
AD = Analysts' Discussion

On the other hand, the level of 'Liberation' in the annual reports of companies in the high discretion industry is statistically significantly higher (*p*-value = 0.010, *d* = 0.90, *zL* = - 0.55, *zH* = - 0.13) than for the companies in the low discretion industry. Again, this is in line with Hypothesis 1(j) to posit that this sub-feature will be statistically significantly higher to decrease the COMMONALITY score of the financial communications of companies in the high discretion industry, than for those in the low discretion industry.

Table 5.20 shows the results for the same sub-features of COMMONALITY by taking into consideration the use of each sub-feature by the companies in the low discretion industry alone during good times and bad times, as predefined. The result shows that the level of 'Diversity' in the annual reports of companies with good performance results in the low discretion industry is statistically significantly higher (*p*-value = 0.005, *d* = 0.42, *zLg* = 0.08, *zLb* = - 0.22) than for those with bad performance results. Similarly, the level of 'Liberation' in the analysts' discussions of companies with good performance results in the low discretion industry is statistically significantly higher (*p*-value = 0.007, *d* = 0.24, *zLg* = - 0.49, *zLb* = - 0.60) than for those with bad performance results. Again, both results are in line with Hypothesis 1(k).

Again, the average *d*-value of 0.33 shows that there is a moderate difference between the financial communications of companies in the low discretion industry during good and bad times. This further lends credence to their isomorphic nature.

Table 5.20 Non-Parametric Test of Statistical Significance between Good & Bad Times (Micro-level Analysis) – Low Discretion Industry

Sub-features of COMMONALITY	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Decrease COMMONALITY Score			**Low (Good)**	**Low (Bad)**	**Low (Good)**	**Low (Bad)**	
Diversity	AR	0.005***	2.09	1.52	1.40	1.27	0.42
Liberation	AD	0.007***	0.85	0.58	1.31	0.88	0.24
Average value					1.36	1.08	0.33

***p*-value < 0.1; *******p*-value <0.05; ********p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

Table 5.21 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (Micro-level Analysis) – Good Times

Sub-features of CERTAINTY	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Decrease CERTAINTY Score			**Low**	**High**	**Low**	**High**	
Numerical Terms	AD	0.004***	12.85	10.97	7.54	6.37	0.27
Ambivalence	AR	0.018**	4.15	3.20	3.03	2.44	0.34
Self-Reference	AR	0.024**	2.05	1.50	2.51	2.50	0.22

***p*-value < 0.1; *******p*-value <0.05; ********p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

During good times, the result in Table 5.21 shows that the level of 'Numerical Terms' in the analysts' discussions of companies in the low discretion industry is statistically significantly higher (*p*-value = 0.004, *d* = 0.27, *zL* = 0.70, *zH* = 0.45) than for those in the high discretion industry. Similarly, the levels of

'Ambivalence' and 'Self-reference' in the annual reports of companies in the low discretion industry are statistically significantly higher (*p*-value = 0.018, *d* = 0.34, *zL* = - 1.37, *zH* = - 1.52; *p*-value < 0.024, *d* = 0.22, *zL* = - 0.60, *zH* = - 0.67, respectively) than for those in the high discretion industry. All of the results for these sub-features that reduce the CERTAINTY score are in line with Hypothesis 2(j) to posit that they will be statistically significantly higher to reduce the CERTAINTY score of companies in the low discretion industry than for those in the high discretion industry.

Table 5.22 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (Micro-level Analysis) – Bad Times

Sub-features of CERTAINTY	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Increase CERTAINTY Score			**Low**	**High**	**Low**	**High**	
Insistence	AD	0.026**	35.21	25.34	19.08	13.86	0.59
Items that Decrease CERTAINTY Score							
Numerical Terms	AD	0.008***	14.76	9.54	8.60	5.72	0.72

***p*-value < 0.1; ****p*-value <0.05; *****p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

During bad times, the result in Table 5.22 shows that for companies in the low discretion industry, the level of 'Insistence' in their analysts' discussions is statistically significantly higher (*p*-value = 0.026, *d* = 0.59, *zL* = - 0.49, *zH* = - 0.68) than for those in the high discretion industry. This is contrary to Hypothesis 2(f). On the other hand, the level of 'Numerical Terms' in the analysts' discussions of companies in the low discretion industry is statistically significantly higher (*p*-value = 0.008, *d* = 0.72, *zL* = 0.96, *zH* = 0.25) than for those in the high discretion industry. This is in line with Hypothesis 2(j) to posit that this sub-feature will be statistically significantly higher to decrease the CERTAINTY score of the financial communications of companies in the low discretion industry, than for those in the high discretion industry.

The result in Table 5.23 shows that for companies with good performance results within the low discretion industry, the level of 'Collectives' in their annual reports is statistically significantly higher (*p*-value = 0.035, *d* = 0.40, *zLg* = - 0.01, *zLb* = - 0.29) than for those with bad performance results. This is in line with Hypothesis 2(g) to posit that this sub-feature will be statistically significantly higher to increase the

CERTAINTY score of the financial communications of companies with good performance results in the low discretion industry, than for those with bad financial results within the same industry.

Table 5.23 Non-Parametric Test of Statistical Significance between Good & Bad Times (Micro-level Analysis) – Low Discretion Industry

Sub-features of CERTAINTY	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Increase CERTAINTY Score			**Low (Good)**	**Low (Bad)**	**Low (Good)**	**Low (Bad)**	
Collectives	AR	0.035**	9.22	7.74	3.98	3.39	0.40
Items that Decrease CERTAINTY Score							
Numerical Terms	AD	0.040**	12.85	14.76	7.54	8.60	0.24
Self-Reference	AR	0.017**	2.05	3.28	2.51	4.11	0.36
Average value					4.68	5.37	0.33

***p*-value < 0.1; ***p*-value <0.05; ****p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

On the other hand, the level of 'Numerical Terms' in the analysts' discussions of companies with bad performance results in the low discretion industry is statistically significantly higher (*p*-value = 0.040, *d* = 0.24, *zLg* = 0.70, *zLb* = 0.96) than for those with good performance results. Similarly, the level of 'Self-Reference' in the annual reports of companies with bad performance results is statistically significantly higher (*p*-value = 0.017, *d* = 0.36, *zLg* = - 0.60, *zLb* = - 0.45) than for those with good performance results. Again, both results are in line with Hypothesis 2(k) to posit that these sub-features will be statistically significantly higher to decrease the CERTAINTY scores of the financial communications of companies with bad performance results in the low discretion industry, than for those with good performance results. Taken as a whole, the average *d*-value of 0.33 shows that there is a moderate difference between the financial communications of companies in the low discretion industry during good and bad times.

During good times, the result in Table 5.24 shows that the levels of 'Aggression' and 'Accomplishment' in the analysts' discussions of companies in the high discretion industry are statistically significantly higher (*p*-value = 0.043, *d* = 0.21, *zL* = - 0.81, *zH* = - 0.72; *p*-value = 0.000, *d* = 0.30, *zL* = 0.11, *zH* = 0.33, respectively) than those in the low discretion industry. Similarly, the level of 'Accomplishment' in the

annual reports of companies in the high discretion industry is statistically significantly higher (*p*-value = 0.017, *d* = 0.20, *zL* = 2.04, *zH* = 2.25) than for those in the low discretion industry. These results are in line with Hypothesis 3(f) to posit that these sub-features will be significantly higher to increase the ACTIVITY score for companies in the high discretion than for those in the low discretion industry.

On the other hand, the level of 'Embellishment' in the annual reports of companies in the low discretion industry is statistically significantly higher (*p*-value = 0.004, *d* = 0.29, *zL* = 0.82, *zH* = 0.20) than for those in the high discretion industry. This is in line with Hypothesis 3(j) to posit that this sub-feature will be significantly higher to decrease the ACTIVITY score for companies in the low discretion than for those in the high discretion industry.

Table 5.24 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (Micro-level Analysis) – Good Times

Sub-features of ACTIVITY	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Increase ACTIVITY Score			**Low**	**High**	**Low**	**High**	
Aggression	AD	0.043**	1.92	2.30	1.49	2.09	0.21
Accomplishment	AR	0.017**	33.54	35.57	11.13	9.22	0.20
	AD	0.000***	15.37	17.52	7.41	6.92	0.30
Items that Decrease ACTIVITY Score							
Embellishment	AR	0.004***	1.05	0.75	1.40	0.54	0.29

***p*-value < 0.1; **p*-value <0.05; ****p*-value <0.01

AR = Annual Report
AD = Analysts' Discussion

During good times, the result in Table 5.25 shows that the level of 'Past Concern' in the annual reports of companies in the high discretion industry is statistically significantly higher (*p*-value = 0.012, *d* = 0.32, *zL* = - 0.58, *zH* = - 0.33) than those in the low discretion industry. Furthermore, the level of 'Complexity' in both the annual reports and analysts' discussions of companies in the high discretion industry is statistically significantly higher (*p*-value = 0.000, *d* = 0.51, *zL* = 1.53, *zH* = 2.00; *p*-value = 0.015, *d* = 0.15, *zL* = - 0.70, *zH* = - 0.60, respectively) than for those in the low discretion industry. These results are in

line with Hypothesis 4(j) to posit that they will be significantly higher to reduce the REALISM score of the financial communications of companies in the high discretion industry.

Table 5.25 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (Micro-level Analysis) – Good Times

Sub-features of REALISM	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Decrease REALISM Score			**Low**	**High**	**Low**	**High**	
Past Concern	AR	0.012**	2.07	2.71	1.21	2.50	0.32
Complexity	AR	0.000***	5.07	5.21	0.24	0.30	0.51

***p*-value < 0.1; **p*-value <0.05; ****p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

Table 5.26 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (Micro-level Analysis) – Bad Times

Sub-features of REALISM	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Increase REALISM Score			**Low**	**High**	**Low**	**High**	
Present Concern	AR	0.008***	7.11	11.33	3.31	4.12	1.12
	AD	0.003***	13.85	17.54	5.12	5.20	0.72
Human Interest	AD	0.014**	29.80	35.63	8.14	10.78	0.61
Concreteness	AD	0.010**	11.47	7.61	6.21	2.51	0.81
Items that Decrease REALISM Score							
Complexity	AD	0.016**	4.43	4.30	0.18	0.17	0.77

***p*-value < 0.1; **p*-value <0.05; ****p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

During bad times, the result in Table 5.26 shows that for companies in the high discretion industry, the level of 'Present Concern' in both their annual reports and analysts' discussions is statistically significantly higher (*p*-value = 0.008, *d* = 1.12, *zL* = - 0.98, *zH* = - 0.11; *p*-value = 0.003, *d* = 0.72, *zL* = 0.42, *zH* = 1.18, respectively) than for those in the low discretion industry. This is contrary to Hypothesis 4(f) and particularly interesting, especially with the level of significance produced by the results. It suggests that during bad times, companies in the high discretion industry will communicate with more 'Present Concern' for their bad performance results in comparison to those in the low discretion industry. Similarly, the level of 'Human Interest' in the analysts' discussions of companies in the high discretion industry is statistically significantly higher (*p*-value = 0.014, *d* = 0.61, *zL* = - 0.15, *zH* = 0.28) than those in the low discretion industry. Again, this is contrary to Hypothesis 4(f).

Furthermore, the level of 'Concreteness' in the analysts' discussions of companies in the low discretion industry is statistically significantly higher (*p*-value = 0.010, *d* = 0.81, *zL* = - 0.91, *zH* = - 1.35) than those in the high discretion industry. This is in line with prediction. With respect to the sub-feature that decrease the REALISM score, the level of 'Complexity' in the analysts' discussions of companies in the low discretion industry is statistically significantly higher (*p*-value = 0.016, *d* = 0.77, *zL* = - 0.60, *zH* = - 1.03) than for those in the high discretion industry. This is contrary to Hypothesis 4(j). In addition, it is similar to the results observed for Flesch Reading Ease in Table 5.14 when measuring for the readability of corporate narratives during bad times.

Table 5.27 Non-Parametric Test of Statistical Significance between Good & Bad Times (Micro-level Analysis) – Low Discretion Industry

Sub-features of REALISM	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Increase REALISM Score			**Low (Good)**	**Low (Bad)**	**Low (Good)**	**Low (Bad)**	
Concreteness	AD	0.001***	9.21	11.47	4.45	6.21	0.42

***p*-value < 0.1; **p*-value <0.05; ****p*-value <0.01

AR = Annual Report
AD = Analysts' Discussion

The result in Table 5.27 for the level of 'Concreteness' is statistically significantly higher (*p*-value = 0.001, *d* = 0.42, *zLg* = - 1.17, *zLb* = - 0.91) for companies with bad performance results than for those with good performance results, within the same low discretion industry. This is contrary to Hypothesis 4(g).

The result suggests that low discretion companies communicate more during bad times with language of tangibility and neutrality to explain their financial circumstances than they would normally do when they report good performance results. Again, the moderate *d*-value of 0.42 further lends credence to their isomorphism.

Table 5.28 Non-Parametric Test of Statistical Significance between Good & Bad Times (Micro-level Analysis) – High Discretion Industry

Sub-features of REALISM	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Increase REALISM Score			**High (Good)**	**High (Bad)**	**High (Good)**	**High (Bad)**	
Present Concern	AR	0.027**	8.10	11.33	3.76	4.12	0.82
	AD	0.004***	14.23	17.54	5.05	5.20	0.65
Human Interest	AD	0.008***	30.48	35.63	10.05	10.78	0.49
Items that Decrease REALISM Score							
Complexity	AD	0.011**	4.43	4.30	0.18	0.17	0.73
Average value					4.76	5.07	0.67

***p*-value < 0.1; **p*-value <0.05; ****p*-value <0.01

AR = Annual Report
AD = Analysts' Discussion

The result in Table 5.28 shows that the level of 'Present Concern' in both the annual reports and analysts' discussions of companies with bad performance results is statistically significantly higher (*p*-value = 0.027, *d* = 0.82, *zHg* = - 0.78, *zHb* = - 0.11; *p*-value = 0.004, *d* = 0.65, *zHg* = 0.50, *zHb* = 1.18) than for those with good performance results. This is contrary to Hypothesis 4(h). Similarly, the level of 'Human Interest' in the analysts' discussions of companies with bad performance results is statistically significantly higher (*p*-value = 0.008, *d* = 0.49, *zHg* = - 0.10, *zHb* = 0.28) than for those with good performance results. Again, this is contrary to Hypothesis 4(h). On the other hand, the level of 'Complexity' in the analysts' discussions of companies with good performance results is statistically significantly higher (*p*-value = 0.011, *d* = 0.73, *zHg* = - 0.60, *zHb* = - 1.03) than those with bad performance results. This is contrary to Hypothesis 4(l). Again, the average *d*-value of 0.67 shows a large difference.

During good times, the result in Table 5.29 shows that the level of 'Praise' in the analysts' discussions of companies in the high discretion industry is statistically significantly higher (*p*-value = 0.002, *d* = 0.21, *zLg* = 0.13, *zHg* = 0.35) than those in the low discretion industry. This is in line with Hypothesis 5(f). On the other hand, the levels of 'Blame' and 'Denial' in the annual reports of companies in the low discretion industry are statistically significantly higher (*p*-value = 0.005, *d* = 0.23, *zLg* = - 0.70, *zHg* = - 0.78; *p*-value = 0.000, *d* = 0.36, *zL* = - 1.37, *zH* = - 1.48, respectively) than for those in the high discretion industry. The two results are in line with Hypothesis 5(j).

Table 5.29 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (Micro-level Analysis) – Good Times

Sub-features of OPTIMISM	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Increase OPTIMISM Score			**Low**	**High**	**Low**	**High**	
Praise	AD	0.002***	6.62	7.37	3.63	3.44	0.21
Items that Decrease OPTIMISM Score							
Blame	AR	0.005***	0.68	0.51	0.68	0.76	0.23
Denial	AR	0.000***	1.13	0.70	1.29	1.04	0.36

***p*-value < 0.1; ****p*-value <0.05; *****p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

Table 5.30 Non-Parametric Test of Statistical Significance between Good & Bad Times (Micro-level Analysis) – High Discretion Industry

Sub-features of OPTIMISM	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Decrease OPTIMISM Score			**High (Good)**	**High (Bad)**	**High (Good)**	**High (Bad)**	
Denial	AR	0.005***	0.70	1.49	1.04	0.88	0.81

***p*-value < 0.1; ****p*-value <0.05; *****p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

The result in Table 5.30 shows that the level of 'Denial' in the annual reports of companies with bad performance results is statistically significantly higher (*p*-value = 0.005, *d* = 0.81, *zHg* = - 1.48, *zHb* = - 1.28) than those with good performance results, within the same high discretion industry. This is in line with the Hypothesis 5(l) to posit that this sub-feature will be significantly higher to reduce the OPTIMISM score of companies with bad performance results. Again, the *d*-value of 0.81 shows a large difference.

Tables 5.31 to 5.34 show the results with respect to analysis for LIWC. The order of analysis follows the same as aforementioned. During good times, the result in Table 5.31 shows that the level of 'Tone' in the analysts' discussions is in line with Hypothesis 6(b). Specifically, the level of 'Tone' in the analysts' discussions of companies in the high discretion industry is statistically significantly higher (*p*-value = 0.000, *d* = 0.56, *zLg* = 0.76, *zHg* = 1.02) than those in the low discretion industry. This is in line with Hypothesis 6(b) to posit that the level of 'Tone' in the financial communications of companies in the high discretion will be significantly higher than for those in the low discretion industry.

Table 5.31 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (LIWC) – Good Times

LIWC Category	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
			Low	High	Low	High	
Tone	AD	0.000***	71.87	77.95	10.82	10.77	0.56
1st Person Singular Pronoun	AR	0.018**	0.28	0.20	0.31	0.29	0.26
Positive Emotion	AD	0.000***	3.06	3.42	0.65	0.72	0.53
Negative Emotion	AR	0.000***	0.66	0.49	0.36	0.43	0.42
	AD	0.002***	0.53	0.47	0.23	0.24	0.25
Achievement	AR	0.000***	3.58	4.10	0.93	1.06	0.53
	AD	0.000***	2.18	2.52	0.64	0.75	0.49
Risk	AR	0.002***	0.44	0.35	0.30	0.35	0.26
Motion	AD	0.000***	2.58	2.79	0.60	0.58	0.36

***p*-value < 0.1; ****p*-value <0.05; *****p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

More importantly, the *z*-score for the level of 'Tone' for high discretion industries is above the normal range. Furthermore, the result shows that the level of 'First Person Singular Pronoun' in the annual reports of companies in the low discretion industry is statistically significantly higher (*p*-value = 0.018, *d* = 0.26, *zLg* = - 1.91, *zHg* = - 1.95) than for those in the high discretion industry. This is in line with Hypothesis 2(j). In addition, the result shows that the level of 'Positive Emotion' in the analysts' discussions of companies in the high discretion industry is statistically significantly higher (*p*-value = 0.000, *d* = 0.53, *zLg* = - 0.37, *zHg* = - 0.15) than for those in the low discretion industry. This is line with Hypothesis 5(f). Furthermore, the results show that for both annual reports and analysts' discussions, the level of 'Negative Emotion' is statistically significantly higher (*p*-value = 0.000, *d* = 0.42, *zLg* = - 1.08, *zHg* = - 1.24; *p*-value = 0.002, *d* = 0.25, *zLg* = - 1.20, *zHg* = - 1.26, respectively) for companies in the low discretion industry than for those in the high discretion industry. Again, this is in line with Hypothesis 5(j).

Similarly, the result shows that the level of 'Achievement' in both the annual reports and analysts' discussions of companies in the high discretion industry is statistically significantly higher (*p*-value = 0.000, *d* = 0.53, *zLg* = 2.78, *zHg* = 3.41; *p*-value = 0.000, *d* = 0.49, *zLg* = 1.07, *zHg* = 1.49, respectively) than for those in the low discretion industry. Again, this is line with Hypothesis 3(f). Furthermore, the result shows that the level of 'Risk' in the annual reports of companies in the low discretion industry is statistically significantly higher (*p*-value = 0.002, *d* = 0.26, *zLg* = - 0.07, *zHg* = - 0.29) than for those in the high discretion industry. This is in line with Hypothesis 2(j). Finally, the result shows that the level of 'Motion' in the analysts' discussions of companies in the high discretion industry is statistically significantly higher (*p*-value = 0.000, *d* = 0.36, *zLg* = 0.42, *zHg* = 0.62) than for those in the low discretion industry. Again, this is in line with Hypothesis 3(f).

During bad times, the result in Table 5.32 shows that the level of 'Tone' in both the annual reports and analysts' discussions of companies in the high discretion industry is statistically significantly higher (*p*-value = 0.041, *d* = 1.08, *zLb* = 0.97, *zHb* = 1.50; *p*-value = 0.000, *d* = 1.42, *zLb* = 0.52, *zHb* = 1.21, respectively) than for those in the low discretion industry. This is in line with Hypothesis 6(b). Similarly, the level of 'Positive Emotion' in in the analysts' discussions of companies in the high discretion industry is statistically significantly higher (*p*-value = 0.000, *d* = 1.13, *zLb* = - 0.52, *zHb* = - 0.03) than for those in the low discretion industry. On the other hand, the results show that the level of 'Negative Emotion' in both the annual reports and analysts' discussions of companies in the low discretion industry is statistically significantly higher (*p*-value = 0.005, *d* = 1.19, *zLb* = - 1.00, *zHb* = - 1.40; *p*-value = 0.001, *d* = 1.02, *zLb* = - 1.15, *zHb* = - 1.34, respectively) than for those in the high discretion industry. This is in line with Hypothesis 5(j). Similarly, the level of 'Risk' in the annual reports of the companies in the low

discretion industry is statistically significantly higher (*p*-value = 0.049, *d* = 0.84, *zLb* = 0.00, *zHb* = - 0.51) than for those in the high discretion industry. Again, this is in line with Hypothesis 2(j).

Table 5.32 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (LIWC) – Bad Times

LIWC Category	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
			Low	High	Low	High	
Tone	AR	0.041**	76.88	89.02	15.02	4.75	1.08
	AD	0.000***	66.27	82.27	13.75	7.89	1.42
Positive Emotion	AD	0.000***	2.82	3.62	0.77	0.63	1.13
Negative Emotion	AR	0.005***	0.75	0.31	0.39	0.34	1.19
	AD	0.001***	0.59	0.38	0.26	0.15	1.02
Risk	AR	0.049**	0.47	0.26	0.27	0.25	0.84

***p*-value < 0.1; ****p*-value <0.05; *****p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

The result in Table 5.33 shows that the level of 'Tone' in the analysts' discussions of companies with good performance results is statistically significantly higher (*p*-value = 0.000, *d* = 0.45, *zLg* = 0.76, *zLb* = 0.52) than for those with bad performance results. This is in line with Hypothesis 6(c). Furthermore, the result shows that the level of 'First Person Singular Pronoun' in the annual reports of companies with bad performance results is statistically significantly higher (*p*-value = 0.001, *d* = 0.55, *zLg* = - 1.91, *zLb* = - 1.80) than for those with good performance results. This is contrary to Hypothesis 2(k). On the other hand, the result shows that the level of 'First Person Plural Pronoun' in the analysts' discussions of companies with bad performance results is statistically significantly higher (*p*-value = 0.002, *d* = 0.37, *zLg* = 5.07, *zLb* = 5.48) than for those with good performance results. This is in line with Hypothesis 2(g) to posit that companies experiencing bad performance results are more likely to use such language to either collectively take responsibility or share the blame for bad performance results.

Furthermore, the result shows that the level of 'Positive Emotion' in the analysts' discussions of companies with good performance results is statistically significantly higher (*p*-value = 0.002, *d* = 0.34, *zLg* = - 0.37, *zLb* = - 0.52) than for those with bad performance results. This is in line with Hypothesis 5(g). In addition, the result for the level of 'Negative Emotion' in the analysts' discussions of companies

Table 5.33 Non-Parametric Test of Statistical Significance between Good & Bad Times (LIWC) – Low Discretion Industry

LIWC Category	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
			Low (Good)	Low (Bad)	Low (Good)	Low (Bad)	
Tone	AD	0.000***	71.87	66.27	10.82	13.75	0.45
1st Person Singular Pronoun	AR	0.001***	0.28	0.55	0.31	0.63	0.55
1st Person Plural Pronoun	AD	0.002***	4.93	5.27	0.92	0.92	0.37
Positive Emotion	AD	0.002***	3.06	2.82	0.65	0.77	0.34
Negative Emotion	AD	0.037**	0.53	0.59	0.23	0.26	0.25
Past Focus	AR	0.027**	1.90	2.10	0.57	0.50	0.37
Average value					2.25	2.81	0.39

***p*-value < 0.1; **p*-value <0.05; ****p*-value <0.01

AR = Annual Report
AD = Analysts' Discussion

with bad performance results is statistically significantly higher (*p*-value = 0.037, *d* = 0.25, *zLg* = - 1.20, *zLb* = - 1.15) than for those with good performance results. Again, this is in line with Hypothesis 5(k). Similarly, the result for the level of 'Past Focus' in the annual reports of companies with bad performance results is statistically significantly higher (*p*-value = 0.027, *d* = 0.37, *zLg* = - 1.33, *zLb* = - 1.23) than for those with good performance results. Again, this is in line with Hypothesis 4(k). Again, the moderate *d*-value of 0.39 further lends credence to their isomorphism.

The result in Table 5.34 shows that the level of 'First Person Singular Pronoun' in the annual reports of companies with bad performance results is statistically significantly higher (*p*-value = 0.015, *d* = 0.78, *zHg* = - 1.95, *zHb* = - 1.82) than for those with good performance results. This is contrary to Hypothesis 2(j). Although this is contrary to the direction of prediction, nonetheless, it aligns to the direction of the result observed for similar DICTION sub-feature - 'Self-Reference'.

Table 5.34 Non-Parametric Test of Statistical Significance between Good & Bad Times (LIWC) – High Discretion Industry

LIWC Category	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
			High (Good)	High (Bad)	High (Good)	High (Bad)	
1st Person Singular Pronoun	AR	0.015**	0.20	0.51	0.29	0.49	0.78
Present Focus	AD	0.021**	10.61	11.54	1.70	1.33	0.61
Average value					1.00	0.91	0.70

***p*-value < 0.1; **p*-value <0.05; ****p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

Finally, the level of 'Present Focus' in the analysts' discussions of companies with bad performance results is statistically significantly higher (*p*-value = 0.021, *d* = 0.61, *zHg* = 0.23, *zHb* = 0.56) than for those with good performance results. Again, this is contrary to Hypothesis 4(h). Although the result is contrary to prediction, nevertheless, it aligns to the direction of the result observed for similar DICTION sub-feature - 'Present Concern', as shown in Table 5.28. Again, the average *d*-value of 0.70 further lends credence to the heterogeneity of companies in the high discretion industry.

5.7 Discussion of the Financial Communications of Companies with Outlier Results

In addition to analysing the financial communications of companies in the two industry groups, this study investigated the results of individual companies in the two industry groups with the aim of examining outlier results in their financial communications. For the low discretion industry, two (2) companies showed outlier results in excess of one standard deviation (i.e. one standard deviation from the mean) in some of the language features of their financial communications in comparison to the calculated *z*-scores of industry averages. On the other hand, no company in the high discretion industry showed an abnormal outlier result in their financial communications. This could be as a result of the heterogeneous nature of the behaviour of companies in the high discretion industry. In addition, analysis shows that while the financial communications of all the companies did not show significant deviation from industry average during good times, the language features of their financial communications deviated significantly from the industry average during bad times. Hence, the focus is on those deviations during bad times. On either side, the evaluation was conducted across the five Master Variables of DICTION, eleven (11) language categories of LIWC, Flesch Reading Ease and Flesch-Kincaid Readability Grade. Table 5.35 shows the companies with these outlier results.

Table 5.35 Companies with Outlier Results

	Low Discretion	High Discretion
1	Cairn Energy Plc	None
2	Evraz Plc	

With respect to Cairn Energy Plc, the analysis of the financial communications of the company between 2011 and 2015 shows that the company had significantly lower levels of COMMONALITY, CERTAINTY, and ACTIVITY in its financial communications, in comparison to other companies within the same industry. These trends are shown in Figures 4.01 to 4.03. In addition, Figure 4.5 shows that the company had significantly higher levels of Tone which is a signal of potential manipulation of the financial position of the company. Furthermore, Figures 4.05 and 4.06 show the trends for Positive Emotion and Negative Emotion words, with both aligning to the language features expected to be used during bad times as stated in the hypothesis phase.

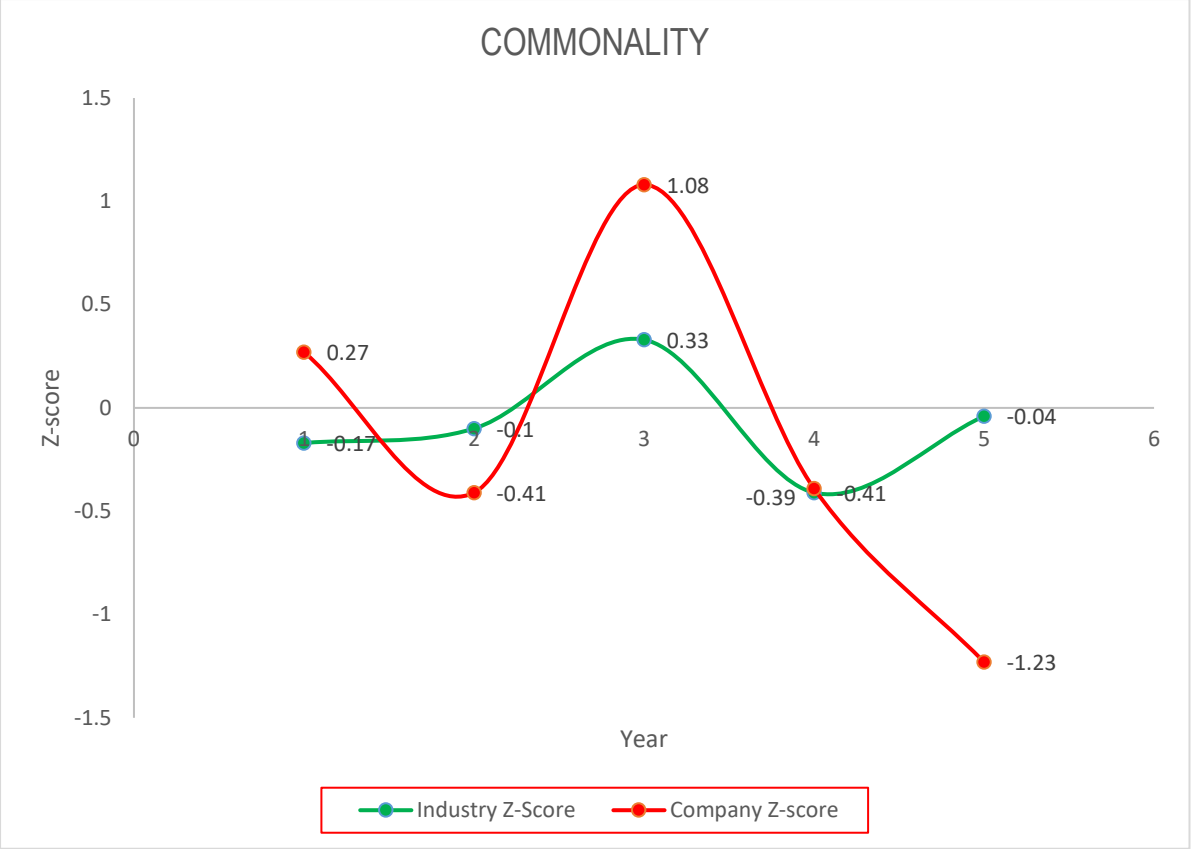

Figure 5.2 COMMONALITY Scores for CAIRN ENERGY between 2011 and 2015.

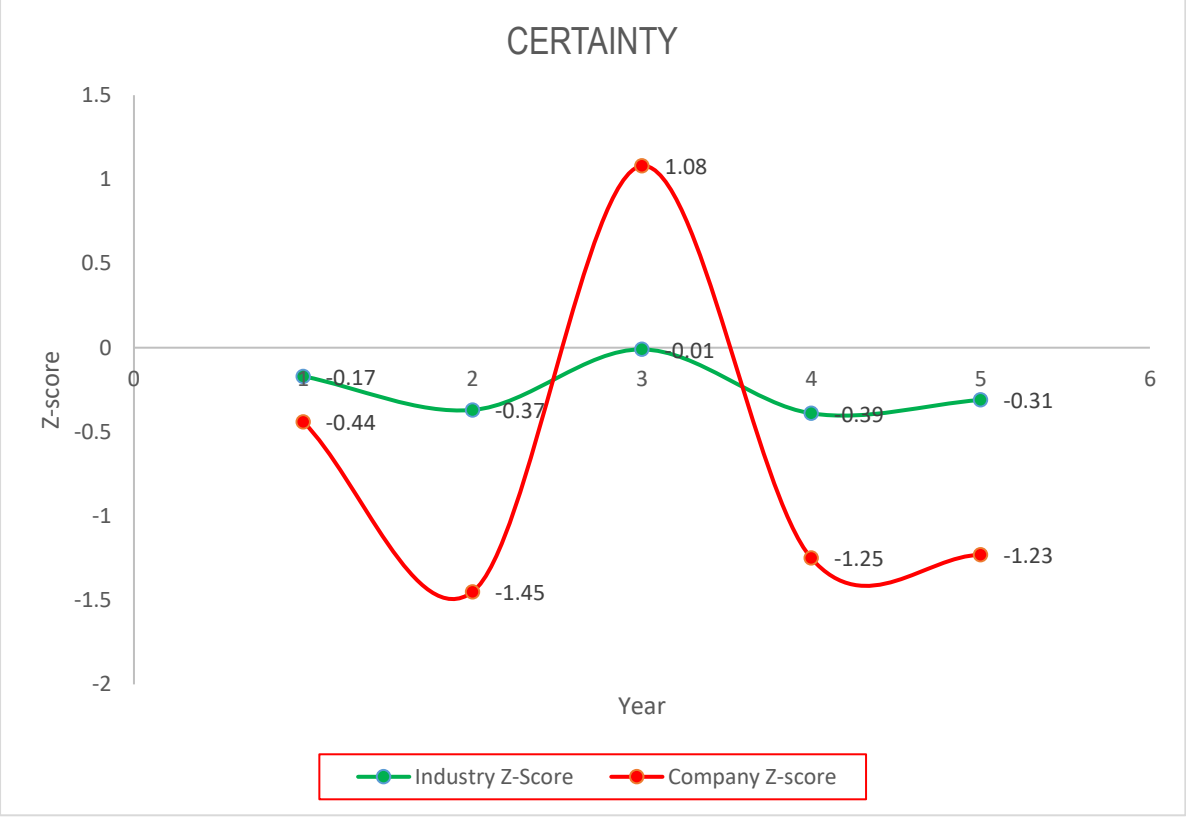

Figure 5.3 CERTAINTY Scores for CAIRN ENERGY between 2011 and 2015.

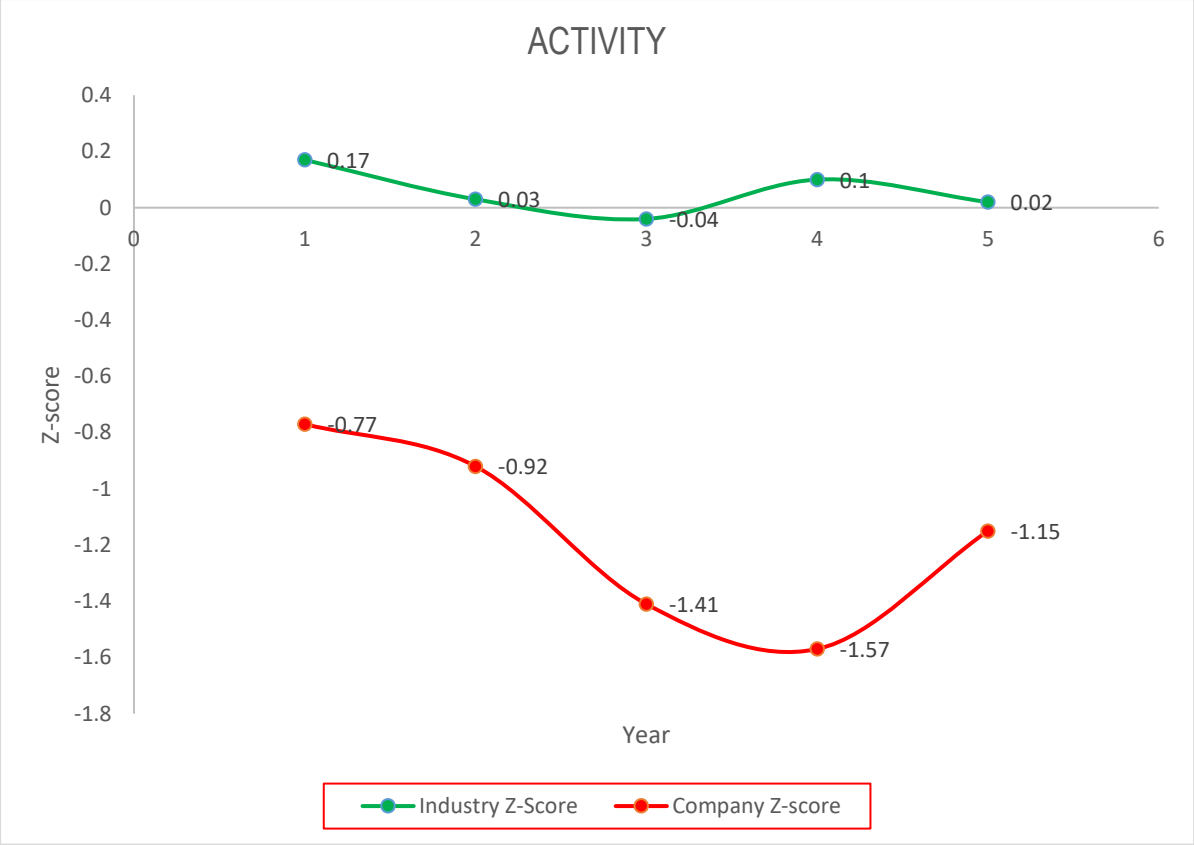

Figure 5.4 ACTIVITY Scores for CAIRN ENERGY between 2011 and 2015.

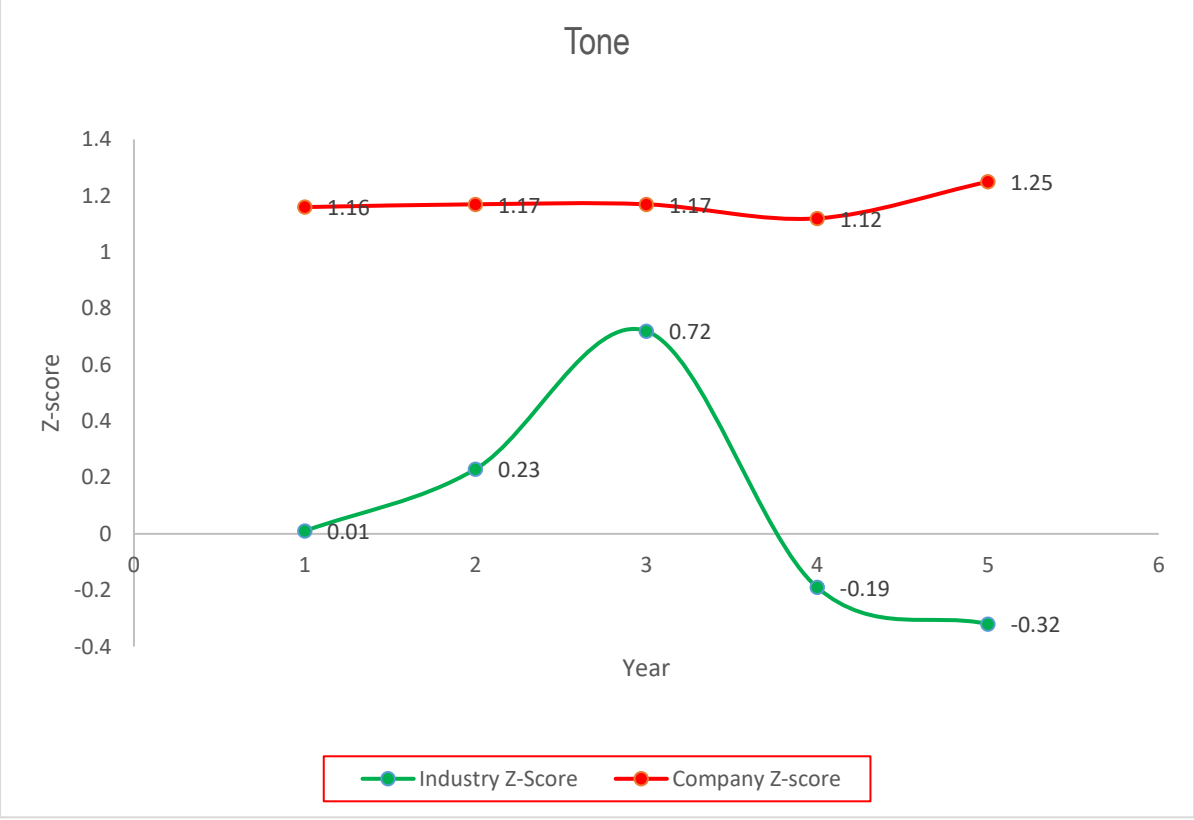

Figure 5.5 TONE Scores for CAIRN ENERGY between 2011 and 2015.

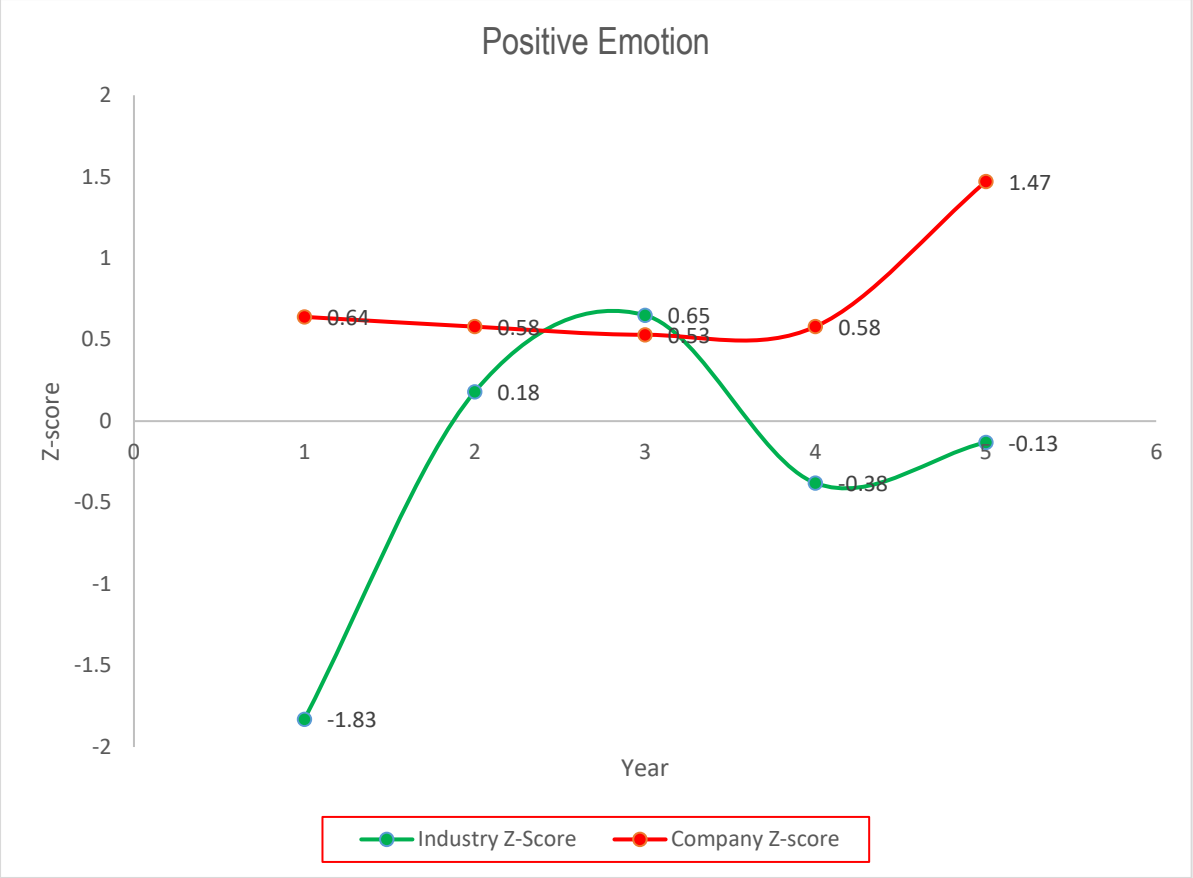

Figure 5.6 Positive Emotion Scores for CAIRN ENERGY between 2011 and 2015.

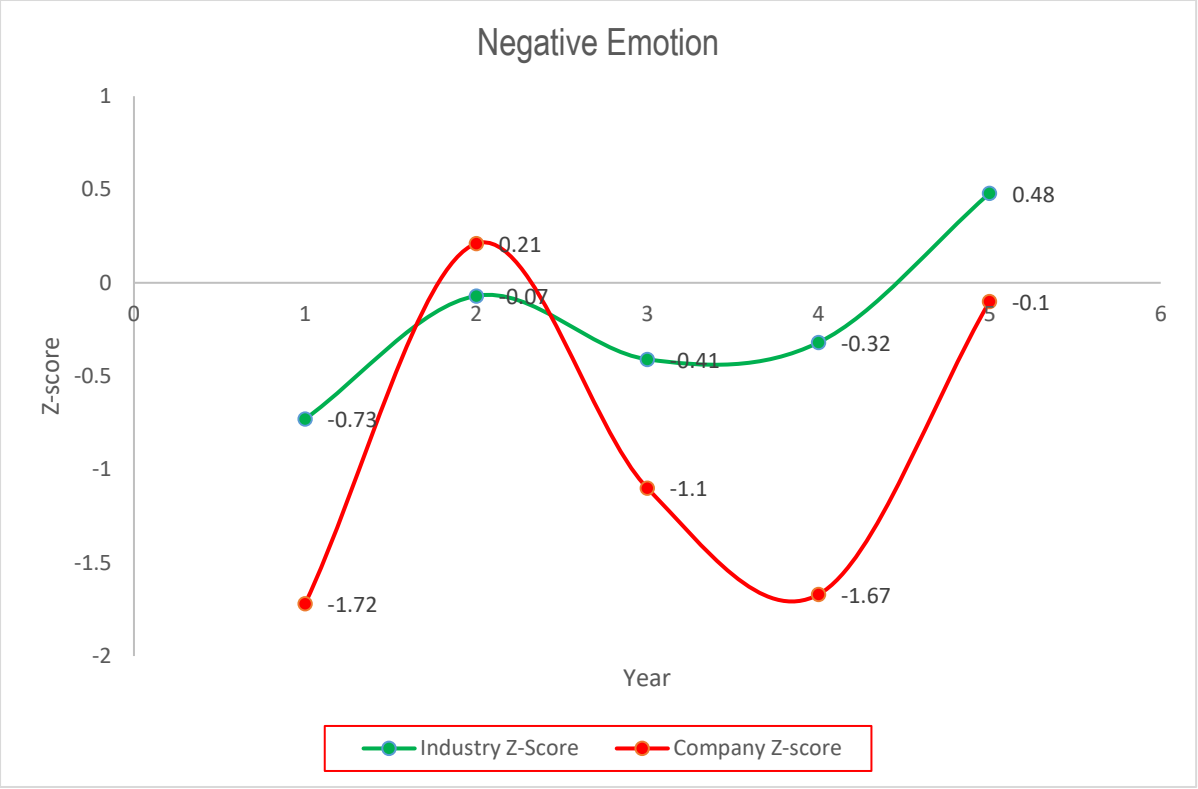

Figure 5.7 Negative Emotion Scores for CAIRN ENERGY between 2011 and 2015.

By comparing the language features of Cairn Energy Plc with its published financials, it shows that the company had consistently reported net losses between years 2013 and 2015 as shown in Table 5.36. Specifically, Figures 4.02 and 4.03 show that in the five-year period, the financial communications of Cairn Energy Plc had significantly lower levels of CERTAINTY and ACTIVITY, in comparison with industry averages as the company moved from profitable years 2011 and 2012 to loss-making years 2014 and 2015. This study argues that with significantly lower level of CERTAINTY in its financial communications, this aligns with the prevalent economic condition of the company. This aligns to the viewpoint of Yuthas et al. (2002) that the use of flexible language in uncertain environments seems to be more legitimate for the purpose of seeking understanding of stakeholders rather than their approval. On the other hand, the use of resolute language and a sense of certainty by the company in a loss-making year 2013 seem inappropriate for an economic context shaped by bad financial performance result (Patelli & Pedrini, 2013). Similarly, the significantly lower level of ACTIVITY in the financial communications of the company between 2013 and 2015 corroborate the findings for the language of CERTAINTY. Specifically, the language of the top management of the company between 2013 and 2015 suggests years of neutrality and inactivity, thereby signalling lack of accomplishments, lower self-confidence and inability to implement change and deliver positive performance results (Patelli & Pedrini, 2013).

Interestingly, Figures 4.04 and 4.06 show that in the five-year period, the financial communications of the company had significantly higher levels of Tone and significantly lower levels of Negative Emotion (except for year 2012). While a significantly lower level of Negative Emotion is inappropriate in an economic context shaped by financial instability (Larcker & Zakolyukina, 2012), the use of significantly higher level of Tone is a signal to potential deception (Henry, 2008). Therefore, the findings suggest that the investors and assurance providers of Cairn Energy Plc need to be vigilant on the future prospects of the company, with the potential threat to its going-concern based on recurring losses. In addition, the result shows that the company has the potential for engaging in earnings manipulation and financial statement fraud when faced with the pressure on maintaining its going-concern status.

Table 5.36 Reported Net Income of Cairn Energy Plc

Year	Net Income (Loss)
2011	2,634.80
2012	44.7
2013	-335.6
2014	-244.5
2015	-349.6

With respect to Evraz Plc, the analysis of the financial communications of the company between 2011 and 2015 shows that the company had significantly higher and lower levels of COMMONALITY and CERTAINTY, respectively, in its financial communications, in comparison to other companies in the same low discretion industry. These trends are shown in Figures 4.7 and 4.8.

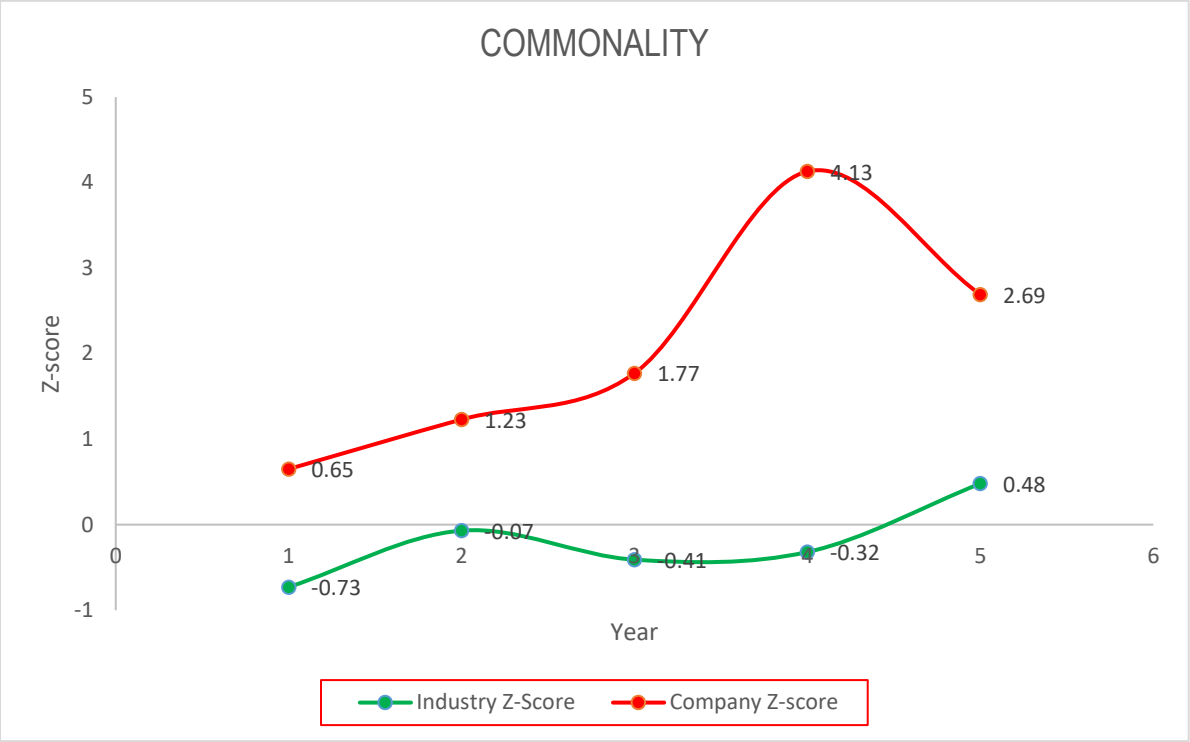

Figure 5.8 COMMONALITY Scores for EVRAZ PLC between 2011 and 2015.

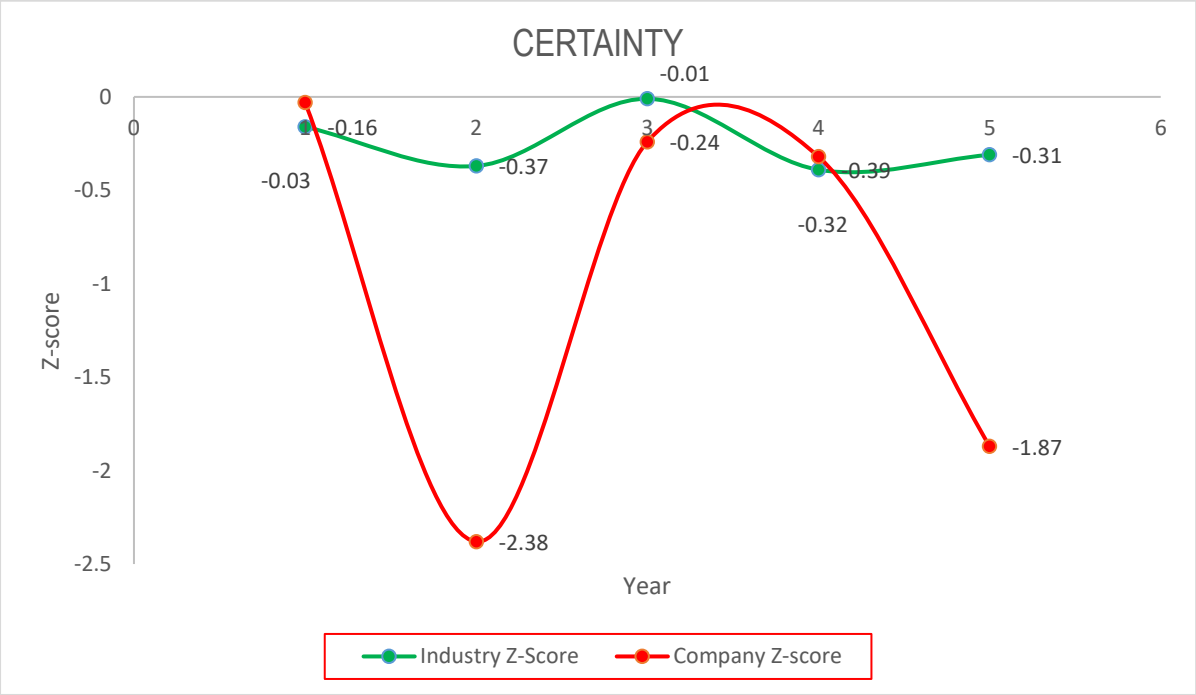

Figure 5.9 CERTAINTY Scores for EVRAZ PLC between 2011 and 2015

In addition, Figures 4.09 and 4.10 show that Evraz Plc had significantly lower levels of Positive Emotion and significantly higher levels of Negative Emotion within the relevant period, which align to the predictions made at the hypothesis phase.

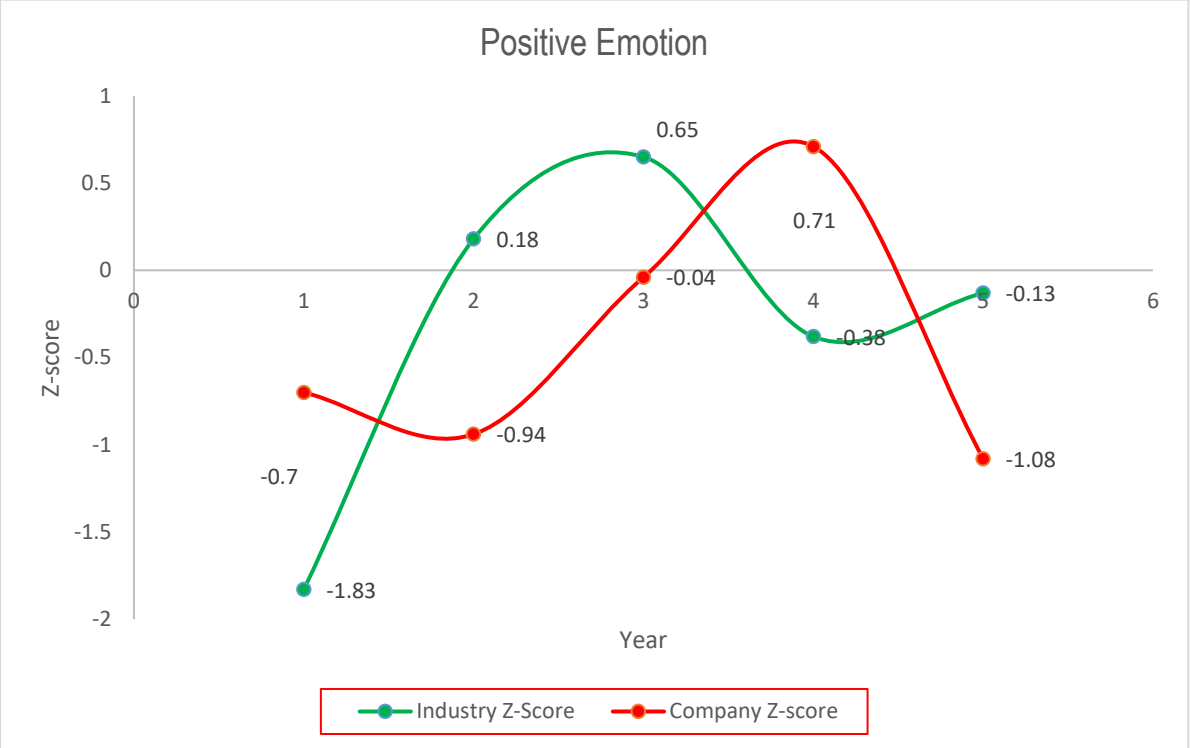

Figure 5.10 Positive Emotion Scores for EVRAZ PLC between 2011 and 2015.

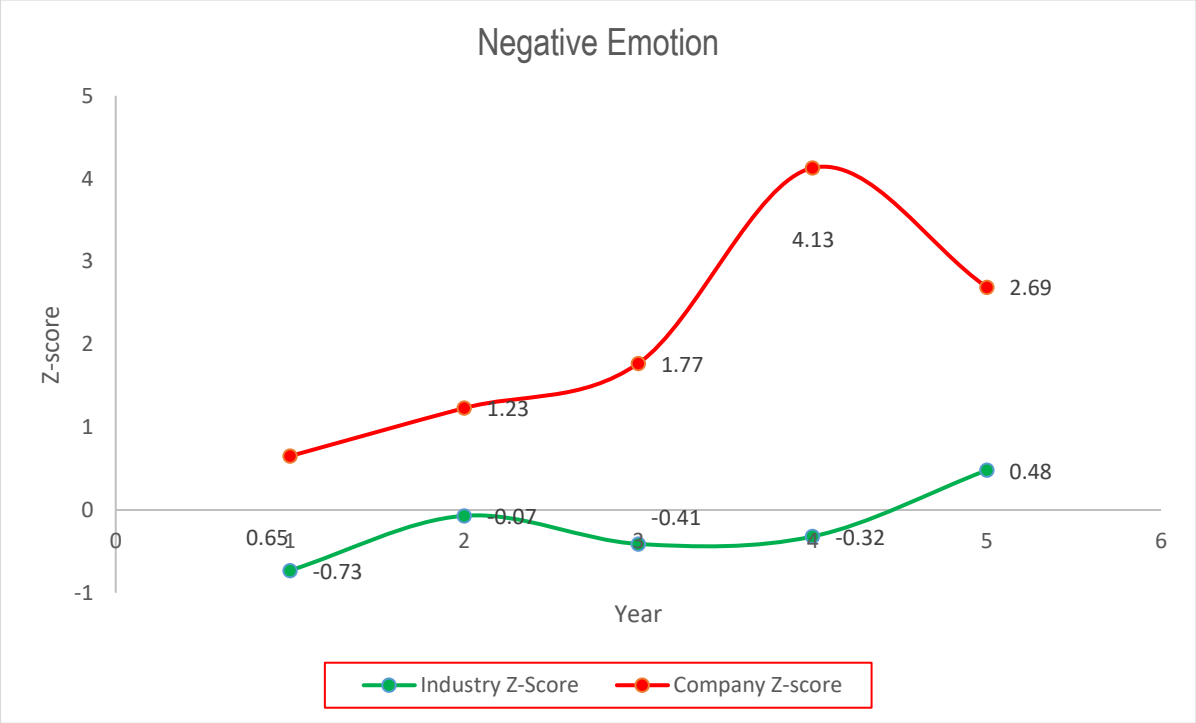

Figure 5.11 Negative Emotion Scores for EVRAZ PLC between 2011 and 2015.

Taken as whole, these trends align to the financial distress experienced by the company within the relevant period. Specifically, the company reported consistent net losses from 2012 to 2015 as shown in Table 5.37. Furthermore, the lower level of CERTAINTY in the financial communications of Evraz Plc align to the economic reality of the company. This is similar with those observed for Cairn Energy Plc. With respect to the significantly higher level of Negative Emotion in the financial communications of the company, this seems to be appropriate with the economic context of the company, especially with reference to year 2014 where it recorded the highest net loss and with accompanying highest z-score of 4.13 in the five-year period.

Table 5.37 Reported Net Income of Evraz Plc

Year	Net Income (Loss)
2011	465.00
2012	-393.00
2013	-504.00
2014	-1175.00
2015	-644.00

In summary, it would appear that for both companies, even in preceding good times, the language features in their financial communications seem to be different from the industry. This study posits that such differences could reflect a signal of potential bad performance results. Therefore, such comparison may be useful for investigators in the course of conducting the annual audit of company accounts.

5.8 Discussion of Key Findings

This study evaluated the psycholinguistic features of financial communications of corporate organisations in the context of institutional theory. It assessed whether the language features of the financial communications of corporate organisations differ based on the institution to which each belongs. In the words of Professor Richard W. Scott, an organisational sociologist globally renowned for his outstanding contributions to the field of organisational theory, particularly with emphasis on the relationship between organisations and their institutional environments, he noted that there is the need to "…look at each institution in specificity, in its granularity and find out why is it as it is, what is exactly going on" (Amarante, 2016, p. 5). Furthermore, he emphasised that each institution is different from another, with each one varying from one country to another, and from one context to another (Amarante, 2016, p.5). Accordingly, this study posited that as corporate organisations are classified into different industries, it is important to understand their corporate behaviours in the context of the institution to which each belongs, compare these behaviours with those of other organisations within the same industry classification and operating within similar economic contexts. In the context of this study, the specific behaviours of corporate organisations evaluated are those reflected within their financial communications published in the annual

reports to shareholders and in their discussions with analysts. To evaluate these financial communications in the context of institutions, this study drew on and evaluated insights from research in the areas of institutional theory, institutional logic, isomorphism, discretion, and impression management.

To establish appropriate conceptual and theoretical frameworks, this study adopted the consensus recommendation of institutional theory researchers on the need to devote research effort to understanding organisations and their behaviours in view of the institutions they are affiliated to, rather than considering and evaluating them as independent of their environment (Amarante, 2016; Boxenbaum & Jonsson, 2013; Greenwood et al., 2013; Scott, 2014; Thornton & Ocasio, 2013; Meyer, 2013). Therefore, there is a shift of focus from the individual organisations to their institutions, with the aim of broadly considering organisations as constituent parts of a larger context, which also enables the possibility of comparing organisations on the basis of how they differ in different industries (Amarante, 2016). Although organisations are expected to differ in many ways, however, this study emphasised the view of organisational theorists that the main way in which their differences can be evaluated should be in the context to which they relate. In the context of this study, to facilitate the evaluation of their differences, this study adopted comparative psycholinguistic analysis of the financial communications of corporate organisations in the context of the institutional logic and the level of discretion that informs their choice of language while communicating their financial performance results to their stakeholders.

Consequently, this study postulates that it would be incommensurate to evaluate the financial communications of a computer technology company operating in a high growth industry with those of an oil and gas company operating in a low growth industry. More importantly, this study emphasised that the evaluation of psycholinguistic features of the financial communications of a computer technology company would be better conducted when compared with those of other competitors or similar companies operating within the same industry, rather than comparing their financial communications with those of a company that operates in a different industry. The rationale for this approach is due to the need in the field of Accounting, particularly Auditing, to assess how computational text analysis techniques can be of assistance to shareholders, assurance providers, and regulatory authorities in understanding the financial communications of companies in the context of the institutional environment they operate in. This approach is important because it provides the potential for measuring outliers in a company's financial communications which are different from those of competitors and/or similar companies operating within the same institutional environment. More importantly, it provides the potential for understanding the psycholinguistic behaviour of companies when faced with pending financial difficulties, with particular emphasis on how easy or difficult it is to read and understand their financial communications during good and bad times.

Building on the insights from institutional theory and to specifically assess the institutional logic within which each corporate organisation operates in, this study adopted the theory on managerial discretion to classify organisations into two broad categories of either belonging to the high discretion industry or low discretion industry. As reviewed in the literature chapter, the theory on managerial discretion posits that organisational outcomes can be shaped by the amount of discretion afforded to an organisation within its institutional environment. In the same vein, Hambrick and Finkelstein (1987) argued that "top managers differ significantly in how much discretion, or latitude of action, they possess in shaping organizational outcomes" (Abrahamson and Hambrick, 1997, p. 514). In addition, they argued that rather than attribute as random phenomenon the degree of discretion a top manager possesses, it can be measured as results from specifiable industry determinants. Originally, the theory on discretion was introduced by Hambrick and Finkelstein in 1987, who found that, overall, the level of industry discretion is significantly higher for companies in the high discretion industry than for those in the low discretion industry.

Although the theory on discretion has gained a wide scope of research efforts with findings published in notable journals, at the time of conducting this study, no known or published work had been conducted in operationalising and validating the formula for measuring industry discretion in the context of companies resident in the United Kingdom. Accordingly, the industry characteristics for measuring industry discretion as established in Hambrick and Abrahamson (1995) were replicated in this study for their applicability, and subsequently, ascertained the reliability and predictive validity of the underlying formula for measuring industry discretion in the UK context. Accordingly, for each of the industry characteristics, this study computed for five-year averages (between years 2011 and 2015) for each firm, the median value was then used as representative of the industry characteristic.

Of the five industry characteristics (including overall Industry Discretion) empirically validated in Hambrick and Abrahamson (1995) and McClelland et al. (2010), the results of replicating the underlying model in the context of UK companies showed similar results as those of the two studies aforementioned. With the exception of Advertising Intensity which showed no significant differences, the results of this study showed that the levels of R&D Intensity and Market Growth are significantly higher for companies in the high discretion industry than for those in the low discretion industry. On the other hand, the results showed that the level of Capital Intensity is higher for companies in the low discretion industry than for those in the high discretion industry. Taken as a whole, the results showed that the amount of Industry Discretion is higher for companies in the high discretion than for those in the low discretion industry. Hence, this study operationalised, validated, and made reliable the underlying model for measuring industry discretion for companies operating in the United Kingdom. In sum, the results are in line with both the

literature on discretion (as in Hambrick & Finkelstein, 1987) and the underlying model for measuring the phenomenon (as in Hambrick & Abrahamson, 1995; McClelland, Liang, & Barker III, 2010).

Consequent on the results obtained from operationalising the measurement of discretion in the UK context, this study proceeded with obtaining the financial communications of all the companies that met the pre-selection criteria, which is that they must have both annual reports and analysts' discussions in the five-year period. For all companies considered, 43 of them had both annual reports and analysts' discussions between 2011 and 2015, while 17 other companies had the same financial communications between 2014 and 2018. On both sides of high and low discretion industry groups, 30 companies each were selected in the evaluation their financial communications. To measure the psycholinguistic features of the financial communications of these companies, this study adopted a text analysis software known as DICTION 7.0 and Language Inquiry and Word Count (LIWC). In addition, this study measured the readability and comprehensibility of the financial communications of the sample companies using the Flesch Reading Ease and Flesch-Kincaid Readability Grades. Accordingly, the results of these measurements and how they contribute to the different aspects of the reviewed literature are discussed hereafter.

In the context of this study, the element of DICTION that informs the measurement of the extent of agreement to or deviation from common values and norms within a group is the COMMONALITY Master Variable. This is because central to the discussion on discretion are the concepts of Isomorphism, Institutional Logic, and Attentional Homogeneity. As reviewed in the literature, the theory on Isomorphism emphasises that organisations that align themselves to the same or similar institutional logic tend to become increasingly similar in their responses when confronted by institutionalised pressures from the external environment (DiMaggio & Powell, 1983). In the same vein, the concept of Institutional Logic explains the view that different organisations within the same institutional environment will be regulated by a similar logic, which will be different from the logic that regulates organisations in an entirely different institutional environment (Thornton & Ocasio, 2013). In view of this, as organisations in different institutional environments are regulated by different institutional logics, their responses to institutional pressures are expected to be isomorphic or similar with those of other organisations operating within the same institutional environment. In other words, the response of an organisation to the pressures specific to its own institutional environment is expected to be different from the responses of other organisations in a different institutional environment. As an extension, this study argues that this isomorphism becomes manifest in the language corporate organisations use within an institutional environment to communicate with their stakeholders, in explaining their peculiar circumstances which may not be applicable to other companies in different institutional environments.

With respect to Attentional Homogeneity, Abrahamson and Hambrick (1997) define it as "the degree of similarity in the foci of attention of top managers across organizations" (p. 514). They posit that a fundamental factor that affects the degree of attentional homogeneity in an institutional environment is the amount of discretion, or latitude of action, present in such institutional environment. Accordingly, the level of discretion or latitude of action is widely different from one institution to another (Hambrick & Finkestein, 1987). As noted by Hambrick and Finkelstein (1987), while some institutions allow a great variety and change in the level of discretion, other institutions limit the amount of discretion afforded to the top managers of organisations within such institutions. Therefore, this study argued, in line with Abrahamson and Finkelstein (1997) and Nelson (1991) that if higher discretion confers options to choose among alternative actions to top managers in an industry or institutional environment, then it was logical to suggest that the same discretion will confer diversity in the options that managers attend to. In view of this, the central argument of this study was that the amount of discretion available in an industry will be negatively related to the level of COMMONALITY in their financial communications. As predicted, the companies in low discretion industry were expected to have a higher level of COMMONALITY than those in the high discretion industry.

The results of this study showed that companies in the low discretion industry have a significantly higher level of COMMONALITY than those in the high discretion industry, a result which is the same across the two financial communications channels – annual reports and discussions with analysts. This result is in line with the extant literature on the impact of discretion on how homogeneously or heterogeneously firms are likely to respond or attend to the pressures from their institutional environments (Abrahamson & Hambrick, 1997; Hambrick and Abrahamson, 1995; McClelland et al., 2010). The results of this study advances this position that the more the restrictions corporate organisations have on the level of discretion afforded to them, the more they are likely to communicate using language that highlights agreed-upon values of their institutional environment and rejecting idiosyncratic modes of engagement (Hart & Carroll, 2015). On the other hand, the more the discretion afforded to corporate organisations the more they are allowed greater variety and change in managerial actions (Abrahamson & Hambrick, 1997, p. 514), to the extent that it confers diversity in the options that the top managements attend to (Nelson, 1991).

Taken as a whole, the results suggest that the top management of companies in the low discretion industry are more likely, than those in the high discretion industry, to use their financial communications to seek common understanding of the peculiarity of their institutional environment with those of competitors or similar companies operating in the same industry and within similar economic contexts.

Interestingly, during favourable or unfavourable financial performance periods, the results of this study suggest that companies in the low discretion industry are more likely to attend homogenously to their financial performance circumstances than those in the high discretion industry. In addition, it showed that while there is a moderate difference (*d* = 0.32) in the effect size levels of COMMONALITY between the annual reports of the two industry groups during periods of favourable financial performance results, there is a large effect size difference (*d* = 1.17) between the COMMONALITY levels of their annual reports during periods of unfavourable financial performance results, with companies in the low discretion industry having higher COMMONALITY levels in both economic contexts. This finding supports the standpoints of prior studies on the potential consequences of organisational behaviour in deviating from the agreed norms of an institutional environment.

Patelli and Pedrini (2015) conclude that deviation from agreed norms as measured by COMMONALITY suggests a non-engaging language, which establishes certain "leadership traits that shape tone at the top is associated with unethical accounting practices" (p. 12). In the same vein, Marsh (2013) posits that a core value of ethical leadership is engagement with the stakeholder community. In other words, ethical leaders prioritise the need to have a common understanding with those they are accountable to (the shareholders), those they share similarity with (their competitors), and those that provide oversight functions on their performances (auditors and regulators). Furthermore, ethical leaders consider the implications of their decisions and actions on their audience by paying attention to the various members of the stakeholder community. Spears (1995) provides a description of ethical leaders as builders of community and better stewards of shareholder wealth, which follows that organisational leadership that undermines the need for ethical considerations leads to placing emphasis on self-interest, with less focus on facilitating rapport with shareholders. Similarly, Brown and Treviño (2006) emphasise that neuroticism is a fundamental trait of poor ethical leadership, which prioritises self-perceptions above common views.

Hence, this study posits that with a higher likelihood of the CEOs of companies in the high discretion industry demonstrating deviation from common views, they are potentially more likely than those in the low discretion industry to engage in unethical leadership such as aggressively recognising the income published in their financial communications. Also, companies in a high discretion industry are more likely not to be caught out as they have more potential to produce heterogeneous reactions compared to those in a low discretion industry, where it would be easier to detect as any differences would be more evident. In view of this, this study posits that the deviation by any company in the low discretion industry, during any economic situation, could provide the potential for investigating for unethical practices which may lead to fraudulent financial reporting.

Furthermore, the results of this study showed that companies in a high discretion industry have a significantly higher level of CERTAINTY (p = 0.000, d = 0.34) in their annual reports than those in the low discretion industry. This result is in the direction of the theory on discretion, the link between non-engaging language and the tendency to have the emergence of unethical organisational leadership. As aforementioned in the discussion on COMMMONALITY in view of the impact of discretion on organisational outcomes, there is the potential for the creation of an unethical leadership that is premised on the availability of discretion to choose from a greater variety of managerial actions (Abrahamson & Hambrick, 1997). In view of this, Hart (2000) noted that the measure of CERTAINTY enables the understanding of the level of resoluteness, inflexibility, and a potential to speak authoritatively. It follows that CERTAINTY denotes a language that focuses on precision and the avoidance of hesitation (Hart, 2000; Patelli & Pedrini, 2015). In view of this, Patelli & Pedrini (2015) posit that understanding the language of CERTAINTY in CEO letters to shareholders can provide the signal of an authoritative leadership that is unwilling to compromise. This form of leadership emphasises a sense of assurance premised on approval and persuasion. In the same vein, Burns (1978) argued that the placement of emphasis on resoluteness by an organisational leadership is an inherent trait of transactional leaders, whose focus is on obtaining contingent rewards and management by exception. On the other hand, organisational leaders that are conscious of the need to maintain engagement with the stakeholder community, with more drive towards common goals rather than self-interest, are more likely to promote ethical leadership (Turner et al., 2002).

Furthermore, with more focus on transactions and the pressure to meet target profitability, transactional leaders are more likely to resort to unethical behaviours (Sama & Shoaf, 2008), such as corporate earnings manipulation. The result of this study on CERTAINTY aligns with these positions. It posits that with a higher potential for market or sales growth, pressure to deliver above-average market returns, and a higher level of discretion available to the companies operating in the high discretion industry, the CEOs of such companies are more likely to communicate to the shareholders using a higher level language of CERTAINTY than their counterparts in the low discretion industry. It follows that with such conditions in an institutional environment, the top management of companies in a high discretion industry have more potential to resort to unethical recognition of income to meet market expectations than those operating in an environment that is more mature and with low expectations on growth and profitability, which is the case of companies operating in a low discretion environment.

Nevertheless, the presence of a significantly higher level of CERTAINTY in financial communications should also be evaluated in the context of economic circumstances, beyond mere institutional contexts.

Yuthas et al. (2002) discuss the language of CERTAINTY in light of the legitimacy principle of discourse ethics. According to Forester (1980), legitimacy connotes the appropriateness of use of language in the context of environmental circumstances. It is inappropriate to universally assess the legitimacy of language without giving consideration to the specific context examined. Patelli and Pedrini (2013) discuss certain economic circumstances for evaluating the legitimacy of the language of CERTAINTY. They posit that during periods of global economic downturn, resoluteness as measured by the language of CERTAINTY is inappropriate for an economic context that is predominantly shaped by high financial instability. They suggest that an uncertain language seems to be more appropriate in uncertain environments, which makes more legitimate the use of flexible language to communicate to the stakeholder community, with the view of seeking understanding rather than approval (Yuthas et al. 2002). This theoretical argument aligns with the position of this study in evaluating the language of CERTAINTY in economic contexts.

Taken as a whole, by evaluating the use of the language of CERTAINTY in the light of economic contexts, the results of this study showed that on either side of the companies operating in the two industry groups, there was a significantly higher level of CERTAINTY in their annual reports during good times than in bad times. Specifically, the result showed that for the low discretion industry, there was a significantly higher level of CERTAINTY (p = 0.006, d = 0.46, zLg = - 0.55, zLb = -1.35) in the annual reports of companies with good financial performance results than those with bad financial performance results within the same industry. Similarly, the results showed that for the high discretion industry, there was a significantly higher level of CERTAINTY (p = 0.018, d = 0.77, zHg = - 0.21, zHb = - 1.43) in the annual reports of companies with good financial performance results than those with bad financial performance results within the same industry. In line with the suggestions of Patelli and Pedrini (2015), this study posits that the lower levels of CERTAINTY in the annual reports of companies in the two industry groups during periods of bad financial performance results aligns to the legitimacy principle of discourse ethics as emphasised by Yuthas et al. (2002). It follows that rather than seeking approval and persuasion during periods of bad financial performance, the results suggest that the CEOs of companies in the two industry groups aligned themselves with the legitimacy principle of discourse ethics by using a flexible language with the view of seeking understanding with their stakeholder community during periods of uncertainty. Returning back to these results, this study posits that the deviation from this principle demonstrated by the use of a significantly higher level of the language of CERTAINTY preceding and during bad times by any company in either of the industry groups could provide the red flag for investigating potential deception in their financial communications.

With respect to the measurement of the ACTIVITY level in financial communications, the results showed that companies in a high discretion industry have a significantly higher level of ACTIVITY (p = 0.002, d = 0.31) in their annual reports than those in a low discretion industry. According to Hart (2000), the language of ACTIVITY provides the measurement for "capturing movement, change, the implementation of an idea, and the avoidance of inertia" (Patelli & Pedrini, 2015, p. 6). In the same vein, Patelli and Pedrini (2015) note that ACTIVITY in language emphasises accomplishments and conveys narcissistic self-confidence. Accordingly, as the use of language focuses on communicating forceful actions and personal triumph, the level of ACTIVITY in such communications increases while the conveyance of neutrality and a sense of inactivity decreases. In view of this, the results of this study on the language of ACTIVITY suggests that the CEO letters of companies operating in a high discretion industry are more likely to be characterised by terms that convey movement, change, the implementation of ideas, and the avoidance of inertia. In the context of this study, such language can be indicative of the presence of persistent industry competition, forceful action, personal triumph, the expression of task-completion, and the avoidance of neutrality and inactivity. Hence, the CEOs of companies in a high discretion industry are more likely to place emphasis on their accomplishments by conveying narcissistic self-confidence. It suggests that the CEOs of companies in a high discretion industry are more likely to use their letters to shareholders to communicate overconfidence in their professional and uncompromising competence towards delivering market expectations and to implement strategic change. It follows suit with the discussion on the level of CERTAINTY in the annual reports of companies in a high discretion industry. This study posits that with a high level of market expectations, high potential for growth, and a high amount of discretion, the CEOs of companies in a high discretion environment are more likely to communicate their overconfidence in implementing strategic change that will enable the delivery of such expectations.

In the same vein, prior studies show that there is a relationship between the language of ACTIVITY and a leadership that is driven by heroic representations (Badaracco, 2001), transformational change (Brown & Treviño, 2006), and self-confidence (Bénabou & Tirole, 2002). Similarly, McClelland et al. (2010) emphasise that the leaders of organisations operating in a high discretion environment are less likely to be committed to existing and established ways of implementing corporate strategy. Therefore, they have more potential to actively drive movement and change from established ways to new ways of implementing corporate strategy, which becomes manifest in their financial communications. In the same vein, Brown and Treviño (2006) posit that leaders who seek transformational change are more likely to engage in unethical practices, especially when they are driven by self-confidence. Nevertheless, Bénabou and Tirole (2002) argued that although self-confidence has a positive impact on organisational

performance, it is self-defeating when it advances towards over-confidence. Similarly, Schrand and Zechman (2012) highlight that there is a strong relationship between overconfidence of CEOs and financial restatements. From the perspective of ethical leadership, this overconfidence can lead to engaging in bold decisions that would otherwise be considered as not feasible by most people (Kets de Vries, 2003). In addition, Chen (2010) shows that accounting frauds are more likely to be committed by overconfident leaders, a situation that potentially undermines the fundamental credibility and quality of financial reporting (Patelli & Pedrini, 2015).

On the other hand, for companies in a low discretion environment, the results showed that the letters of CEOs to shareholders in the annual reports for a low discretion industry are more likely to convey a sense of neutrality, passivity, and the acceptance of inertness, which provides an indication of potential unwillingness or inability of the CEOs to display overconfidence, with a lesser emphasis on their accomplishments. It follows that the CEOs of companies in a low discretion environment are more likely to use this language to communicate their commitment to the status-quo, passivity in driving movement or change existing ways of implementing financial performance plans. This position aligns with the conclusion of McClelland et al. (2010) that the leaders of companies operating in a low discretion environment are more likely to stay committed to existing and established ways of implementing corporate strategy, rather than engaging in forceful action towards the implementation of new ideas. Badaracco (2001) emphasised that rather than being driven by heroic representations of actions and decisions, ethical leaders are more inclined to undertake change in a patient, careful, and incremental way. In view of the results from this study and the conclusions of prior studies, this study posits that CEOs in a low discretion environment understand the dynamics of their industry with respect to growth prospects, and have more potential to implement the financial performance plans of their companies in a patient, careful, incremental, and ethical way.

Returning to the fourth Master Variable REALISM, the result shows that the financial communications of companies in the low discretion industry have a significantly higher level of REALISM than for those in the high discretion industry. Specifically, both the annual reports (p = 0.031, d = 0.30) and discussions with analysts (p = 0.046, d = 0.11) show the language of REALISM is significantly higher for companies in the low discretion industry than for those in the high discretion industry. According to Hart and Caroll (2015), REALISM is a "language describing tangible, immediate, recognizable matters that affect people's everyday lives" (p. 9). It is a measure of the comprehensibility or difficulty of language in a textual information, or as Patelli and Pedrini (2015) puts it, "…it is an inverse measure of the complexity of the language" (p. 11), with lower values indicating higher lexical complexity, and vice versa. As a measure

of comprehensibility or difficulty, REALISM increases with the frequent use of terms that are concrete and familiar, while it reduces with the use of words that are complex, with long sentences, and uncommon terminology (Hart & Carroll, 2015; Patelli & Pedrini, 2015). By implication, a lower level of REALISM creates readability problems for the stakeholder community as it deviates from what is tangible, immediate, or recognisable to them. On the other hand, a higher value of REALISM facilitates the reading ease of the stakeholder community as it implies they are familiar with the language used in communicating to them.

In the context of this study, a lower REALISM value indicates potential complexity of the language used by CEOs in communicating with the users of financial information, while a higher value enables the reading ease of the financial communications of corporate organisations. In view of this, as the REALISM score of companies in the low discretion industry is significantly higher than those in the high discretion industry, it suggests that, taken as a whole, the financial communications of the companies in a high discretion environment are less likely to be easily read and understood than those disclosed by companies in a low discretion environment. Patelli and Pedrini (2015) point out that a significant predictor of potential aggressive financial reporting is when complex lexicons are used in financial communications with the stakeholder community. Similarly, Merkl-Davies and Brennan (2007) posit that 'ease of reading' of a text is an area that is susceptible to rhetorical manipulation facilitated through impression management tactics.

In addition, Li (2008) emphasises that the leadership of a company can use financial communications to manipulate and deceive potential investors when complex language is used in structuring those narratives. This is usually the case when they need to divert the attention of the stakeholder community from unfavourable financial performance results (Courtis, 1986, 1998; Lehavy et al. 2011; Li, 2008; Patelli & Pedrini, 2015). Hence, the use of familiar and concrete words in financial communications measured by the REALISM variable suggests faithful representation of financial performance results, while the use of complex lexicons in those communications violates the principle of comprehensibility in discourse ethics (Forester, 1980). Therefore, the financial communications of companies should be easily understood and transparent to aid the mutual understanding of CEOs and the stakeholder community (Patelli & Pedrini, 2015), a lack of which provides a signal for potential lapses in discourse ethics with accompanying consequences for confidence in the financial reporting function (Schaubroeck et al. 2012).

In light of seeking to evaluate, in more granular form, the readability of financial communications, this study conducted two readability measure tests in differentiating between the ease or difficulty in reading and comprehending the financial communications of companies in the two industry groups. The two

measures conducted were Flesch Reading Ease and Flesch-Kincaid Readability Grades. Taken as a whole, two major levels of analysis for discussion are: the difference between readability measures of the financial communications of the two industry groups; and the difference between the readability measures of the two forms of financial communications (annual reports and discussions with analysts) in each industry group. Specifically, the second level of analysis was conducted to inform shareholders, assurance providers, and the regulatory environment on which of the two forms of financial communications (annual reports and discussions with analysts) the top management of companies will potentially target when they need to rhetorically manipulate the readability of financial communications.

Accordingly, for the first level of analysis, this study showed that the CEO letters to shareholders as contained in the annual reports of companies in the low discretion industry is significantly easier (p = 0.000, d = 0.44) to read and understand than for those in the high discretion industry. Similarly, in comparison to those in a low discretion environment, the result shows that the CEO letters of companies in a high discretion environment have the potential (p = 0.059, d = 0.29) to demand a higher level of education to be read and understood. This study argues that with a high level of discretion available to the top management of companies in a high discretion environment, this has the potential for enabling them to choose from a wide variety of actions including the use of uncommon terminologies in their financial communications that are unfamiliar to the stakeholder community. In contrast, this study argues that with a low level of discretion, the top management of companies in a low discretion environment are limited in their choice of actions which could impact their selection of terminologies used in their financial communications. This low level of discretion has the potential to constrain the top management of companies in a low discretion environment to choosing words that are commonly used in their institutional environment which align to the understanding of the stakeholder community.

In addition, the second layer of analysis on readability measures showed that for companies in the low discretion industry, the reading ease of their discussions with analysts is significantly higher (p = 0.000, d = 3.71) than those of the letters of CEOs to shareholders within the same accounting period. Specifically, it showed that while the reading ease score of discussions with analysts is within the region of the 'Easily Understood', the score of the reading ease of CEO letters to shareholders is within the region of 'Very Difficult to Read and Understand'. With respect to the level of education required to read and understand the financial communications of companies in a low discretion environment, the result showed (p = 0.000, d = 2.92) that while it will take 13- to 15-year-old students to read and understand the discussions of the CEOs with analysts, it will take a university graduate to read and understand the CEO letters to shareholders within the same period.

For companies in the high discretion industry, the result showed that the reading ease of their discussions with analysts is significantly higher (p = 0.000, d = 4.21) than those of the letters of CEOs to shareholders within the same accounting period. Specifically, it showed that while the reading ease score of discussions with analysts is within the region of the 'Easily Understood', the score of the reading ease of CEO letters to shareholders is within the region of 'Very Difficult to Read and Understand'. With respect to the level of education required to read and understand the financial communications of companies in a high discretion environment, again, the result showed (p = 0.000, d = 3.61) that while it will take 13- to 15-year-old students to read and understand the discussions of CEOs with analysts, it will take a university graduate to read and understand the CEO letters to shareholders within the same period. Taken as a whole, the aggregated results showed that while it is significantly easier (p = 0.000, d = 3.91) to read and understand the combined CEO discussions with analysts of the two industry groups, it is rather difficult to read and understand their combined CEO letters to shareholders within the same accounting period. Again, the aggregated results showed (p = 0.000, d = 3.21) that while it will take 13- to 15-year-old students to read and understand the combined CEO discussions with analysts of the two industry groups, it will take a university graduate to read and understand their combined CEO letters to shareholders within the same accounting period. This makes the case for the next line of discussion.

Prior studies show that the genre of text and medium of communication have implications for readability and comprehensibility (Brooks & Warren, 1972; McCarthy, Myers, Briner, Graesser, & McNamara, 2009; McNamara, Graesser, McCarthy, & Cai, 2014). Brooks and Warren (1972) differentiated between genres of text into narrative, expository, persuasive, and descriptive. Brooks and Warren's classification of text suggests that text in certain categories are more difficult to read and understand than texts in other categories. In the same vein, McNamara et al. (2014) posit that narrative texts tend to have a higher level of readability and comprehension than informational texts. Similarly, in the studies by Graesser and Ottai (1996) and Haberlandt and Graesser (1985), they estimated that narrative texts are read and understood approximately twice as quickly and can be remembered twice more than informational texts. Similarly, the results of this study, also, showed that the reading ease of the discussions with analysts of companies in either of the industry groups are twice as much as those of their CEO letters to shareholders. While the CEO letters of companies in the low discretion industry had a mean reading ease score of **30.92**, their discussions with analysts had a mean reading score of **58.54**. Again, while the CEO letters of companies in the high discretion industry had a mean reading ease score of **27.44**, their discussions with analysts had a mean reading score of **58.12**.

In addition, prior studies show that a potential multidimensional perspective for analysing text was to scale texts in accordance to text dimensions (Biber, 1991; Louwerse et al., 2004). McNamara et al. (2014)

posit that text can be evaluated to the degree to which it is informational versus narrative, print versus oral, decontextualised form- versus interactive with- a stakeholder community, formal versus informal, among others (p. 14). In view of this, McNamara et al. (2014) suggest that informational, print, decontextualised, and formal texts are more difficult to read and understand than narrative, oral, contextualised, and informal texts. Accordingly, the results of this study, as discussed above, suggests that the informational, print, and decontextualised nature of annual reports make it more difficult to read and understand in comparison to discussions with analysts which are in the form of narratives, discussed orally and with greater emphasis on context, and in more informal settings. Accordingly, this study posits that CEO letters to shareholders have a greater potential to be targeted for rhetorical manipulation than they would do in their discussions with analysts. This study suggests two reasons: First, it is less likely for CEOs to rhetorically manipulate expert analysts on matters they have the professional expertise to read and comprehend than they would do to shareholders drawn from all walks of life, without possessing bespoke knowledge and expertise of the industry they invest in. Second, discussions with analysts have the potential to be more revealing of the financial position of a company due to the possibility of obtaining clarifications in a 'question and answer' format.

Returning back to prior studies, Huff (1990) reviews the strengths and potential weaknesses associated with mapping the attention patterns in communications. The main criticisms focus not so much on the appropriateness of the method adopted, but rather on the reliability, validity, and completeness of the data analysed in building those attention patterns. It follows that different genres of text are targeted to specific audiences, and for specific purposes (Abrahamson & Hambrick, 1997, p. 519). Following the criticisms of certain textual data by Huff (1990), Abrahamson and Hambrick (1997) note some additional criticisms of the reliability of CEO letters to shareholders for the purpose of analysing for their language features. First, they note that neither the editorial reviewers of CEO letters to shareholders, nor their author's intent are known. Second, it remains unclear whether CEO letters to shareholders are written by the CEOs themselves or by public relations specialists communicating for the CEO. Similarly, Bowman (1984) emphasised that there is the need to evaluate the validity of annual reports because top management "spend considerable time outlining the content of the report, sketching out much of it, and proofreading and changing most of it to their taste" (p. 63). Third, Abrahamson and Hambrick (1997) question whether CEO letters to shareholders reflect the true cognition of CEOs.

In order to provide anecdotal evidence on the true authors of CEO letters to shareholders, Abrahamson and Hambrick (1997) cited evidence from a statement made in the Wall Street Journal that:

> "The shareholders' letter bears only one or two signatures, but it is generally a committee project. Public relations staffers or consultants, who often write the first draft, are aware that the copy has to be reviewed by the chief executive officer, the chief financial officer, the board of directors and the legal department" (Wall Street Journal 1982, cited in Abrahamson & Hambrick, 1997, p. 519).

Accordingly, this anecdotal evidence suggests that CEO letters to shareholders get well-edited until they become acceptable to the top management of a company, hence, reflecting some form of contributions and consensus among various members of a company's top management team (Abrahamson & Hambrick, 1997). It follows from a study by Fiol (1995) which reinforces that while non-evaluative statements such as discussions with analysts and other internal documents belonging to companies may tend to reflect the true state of managerial cognitions, evaluative statements such as CEO letters to shareholders may be more likely to convey impression management (Abrahamson & Park, 1994). Hence, Fiol (1995) recommended the analysis of non-evaluative statements in order to obtain complementary understanding of managers' cognitions, a result which may not be fully obtained by solely focusing on already-edited and contamination-prone CEO letters to shareholders. In view of these criticisms and recommendations, this study posits that the exposure of CEO letters to various contributors and, most importantly, the possibility of being edited and managed by public relations specialists have the potential to reduce the readability and robustness of their content for impression management purposes. On the other hand, since discussions with analysts are more spontaneous with the possibility of obtaining, in a dialogue setting, answers to arguably unanticipated questions, it suggests that they are less likely to be difficult to read in comparison to CEO letters to shareholders predominantly written as a monologue.

Turning to the fifth Master Variable OPTIMISM, although the language measure of OPTIMISM was higher in the financial communications of companies in the high discretion industry, however, no significant difference was observed between the two industry groups. This result is similar to those reported in Patelli and Pedrini (2015) for which they conclude by emphasising the position of Feldman et al. (2010) that a proper evaluation of the language of OPTIMISM would entail analysing for the element of Tone in corporate narratives. They posit that this would require considering the importance of adopting a more comprehensive approach for measuring the rhetorical features of financial communications with the view of detecting the aspects of Tone significantly associated with financial reporting practices. Therefore, the next line of discussion focuses on the results obtained from analysing the Tone element of the financial communications of the companies in the two industry groups.

The results for the measurement of the level of Tone in financial communications of companies in the high discretion industry is significantly higher than for those in the low discretion industry. Specifically, it

showed that the level of Tone in the annual reports of companies in the high discretion industry is significantly higher (p = 0.008, d = 0.34, zL = 1.07, zH = 1.26) than for those in the low discretion industry. Similarly, the level of Tone in the analysts' discussions of companies in the high discretion industry is significantly higher (p = 0.000, d = 0.72, zL = 0.68, zH = 1.03) than for those in the low discretion industry. In the context of favourable financial performance periods, the results further revealed that the level of Tone in the analysts' discussions of companies in high discretion industry is significantly higher (p = 0.000, d = 0.56, zLg = 0.76, zHg = 1.02) than for those in the low discretion industry. On the other hand, in the context of unfavourable financial performance periods, the results, again, revealed that the level of Tone in the annual reports (p = 0.041, d = 1.08, zLb = 0.97, zHb = 1.50) and analysts' discussions (p = 0.000, d = 1.42, zLb = 0.52, zHb = 1.21) are significantly higher for companies in the high discretion industry than for those in the low discretion industry. Taken as whole, the results showed that at all levels of analysis, the level of Tone in the financial communications of companies in a high discretion industry is significantly higher than for those in the low discretion industry.

Notably, at all levels, the z-scores for the level of Tone in the financial communications of companies in the high discretion industry are all above one standard deviation above the normal range, while those of the companies in the low discretion industry were within the normal range. This study posits the high level of discretion available to companies in a high discretion industry has the potential to increase the amount of Tone afforded to top management of those companies in their financial communications. On the other hand, it posits that the constrained level of discretion available to companies in a low discretion industry has the potential to limit the amount of Tone afforded to top management of those companies in their financial communications. Furthermore, the results revealed that the level of Tone in the analysts' discussions of companies in the low discretion industry is significantly higher (p = 0.000, d = 0.45, zLg = 0.76, zLb = 0.52) during periods of favourable financial performance results than during periods of unfavourable financial performance results. Overall, the results suggest that the CEOs of companies in the high discretion industry have the potential to build the element of 'Tone' in their financial communications with both shareholders and analysts more than the CEOs of companies in the low discretion industry.

Prior study by Henry (2008) introduced a novel approach for measuring the level of tone in financial communications, with respect to the proportion of positive and negative words contained in a text. In her study, it was emphasised that as the proportion of positive words exceed negative words, the level of Tone contained in a text increases as well. Similarly, Amernic et al. (2010) measured the level of Tone in CEO letters to shareholders, Kahveci (2016) assessed Tone as a strategic performance management tool, Nelson et al. (2014) assessed Tone as a measure of corporate persona and optimistic language in

annual reports, while Goel (2014) adopted Tone as a proxy for examining fraudulent financial reporting. In the same vein, Patelli and Pedrini (2015) found significant correlation between the level of Tone in financial communications and financial reporting aggressiveness. It follows from the findings of Hooghiemstra (2000), who found that the use of optimistic tone is associated with impression management strategy, especially when a company experiences periods of financial difficulty. Similarly, Clatworthy and Jones (2003) emphasise that the management of impression in corporate financial communications is achieved through an optimistic tone that ignores failures and emphasises success.

Accordingly, this study posits that there is more scope for aggressive financial reporting in the financial communications of companies in the high discretion industry than for those in the low discretion industry, owing to the wider perspective of Tone available to the companies in the high discretion industry. In the same vein, with a potentially high level of CERTAINTY demonstrated by CEOs in a high discretion industry towards the delivery of predicted high financial performance results, there is the likelihood for CEOs to aggressively use more positive words that would underlie their ability to and insistence on delivering market expectations, while conservatively using negative words that would otherwise undermine their competence in delivering those performance results. Furthermore, the results are in the direction of prediction to show that companies in a high discretion industry have the potential to use a higher level of Tone in their annual reports and analysts' discussions (p = 0.201, d = 0.64, zHg = 1.25, zHb = 1.50; p = 0.121, d = 0.46, zHg = 1.02, zHb = 1.21, respectively) during unfavourable periods than they would do in periods of favourable financial performance results. On the other hand, for companies in the low discretion industry, this study posits that there is the potential for their CEOs to communicate using less aggressive, or rather conservative language, due to the already known lower growth prospects for companies in the low discretion industry. Accordingly, there is the likelihood for the CEOs of companies in the low discretion industry to either conservatively use positive words or use more negative words to emphasise their performance results in their financial communications. This is evident in the lower level of Tone in the financial communications of companies in the low discretion industry during unfavourable financial performance periods (p = 0.000, d = 0.45, zLg = 0.76, zLb = 0.52) than when they had favourable financial performance results.

In summary, the results of this study showed that the financial communications of companies can better be evaluated and understood in the context of the institutional environment to which each belongs and in the economic contexts they are faced with. As aforementioned, although organisations are expected to differ in many ways, this study emphasises the view of organisational theorists that the main way in which their differences can be evaluated should be in the context to which they relate. Rather than comparing the financial communications of companies in a generic way, the results of this study suggest that there

is the potential for like-for-like comparisons to be revealing of some underlying factors or situations. These factors are, but not limited to, the level of discretion available in an institutional environment and prevailing economic circumstances, that may influence organisational outcomes, which subsequently, will inform the choice of words used in financial communications and enable a deeper contextual analysis of language by auditors or regulatory authorities. While the results of this study show linguistic differentiation between the financial communications of companies in the two industry groups, however, it does not mean that companies in a low discretion industry are less likely to engage in deception. Nonetheless, the results suggest that investigation of language in corporate cases needs to be much more contextually nuanced, in assessing the potential incidence of earnings management or financial statement fraud.

CHAPTER SIX

CONCLUSION CHAPTER

From the preceding chapter, the results presented show that, taken as a whole, the language features in the financial communications of companies in the high discretion industry can be effectively differentiated from those in the low discretion industry. Furthermore, the results show that those financial communications can be evaluated for differential features during favourable and unfavourable financial performance periods. Accordingly, this chapter presents the contributions of this study towards advancing the research on differentiating language features in financial communications. It begins with a discussion of the implications of the findings for theory, practice, and regulation. As with any research, the approach adopted in this study has some limitations. The discussion of these limitations forms the basis for offering some recommendations that could provide directions for future research.

6.1 Contribution to Knowledge and Implications of Findings on Theory, Practice and Regulation

This study discussed the psycholinguistic features of financial communications in the context of the institutional environment that shape the actions of corporate organisations. This was conducted by adopting insights from organisational theorists on the need to understand the behaviour of organisations in the context of the institutions that regulate such behaviours. Specifically, the behaviours of organisations evaluated in this study are those related to their financial communications. To create a form of classification of organisations into different institutional groups, this study adopted the theory on managerial discretion for differentiating between companies as either belonging to the high discretion industry or the low discretion industry, using four objective industry characteristics for measuring overall Industry Discretion.

Accordingly, this study empirically tested the industry characteristics established in prior studies (Hambrick & Abrahamson, 1995; McClleland et al., 2010) for differentiating between high and low discretion industries. Specifically, this study conducted a comparative analysis on the measurement of industry discretion in the UK context, with the view of obtaining the predictive validity of the underlying model originally tested in the USA (Hambrick & Abrahamson, 1995). Taken as a whole, this study found evidence that the objective industry characteristics of Research and Development (R&D) Intensity, Sales or Market Growth, and Capital Intensity are reliable and valid in differentiating between industries in the UK as either belonging to the high discretion industry or low discretion industry. In the development of the hypotheses for this study, it argues that these objective industry characteristics for measuring industry discretion provide the basis for evaluating the financial communications of companies in either industry groups, with respect to the amount of discretion available to them.

In particular, the financial communications of companies in the two industry groups were evaluated for their language of COMMONALITY, CERTAINTY, ACTIVITY, REALISM, and OPTIMISM. Specifically, the language of COMMONALITY provides the basis for evaluating the level of agreement between companies in each industry groups and the norms in their respective institutional environments. Furthermore, this study assessed the readability of the financial communications (CEO letters to shareholders in annual reports and their discussions with analysts) of the companies in the two industry groups using standardised Flesch Reading Ease and Flesch-Kincaid Readability Grades. In addition, these computational measures were applied in evaluating the financial communications of companies in the two industry groups during favourable and unfavourable financial performance periods. The empirical findings of this study suggest that these thematic indicators have the potential for differentiating between the financial communications of companies in high and low discretion industry groups. More importantly, the findings suggest that the psycholinguistic features of the financial communications of companies in either of the industry groups are different during favourable and unfavourable financial performance periods. Lastly, the findings suggest the form of financial communications that is more susceptible to rhetorical manipulations by CEOs. Consequently, the empirical findings of this study have some implications for theory, practice, and the regulatory authorities.

The conclusions of this study contribute to the need to engage in interdisciplinary research by adopting theoretical constructs in the fields of Sociology, Psychology, Linguistics, Accounting and Auditing. The conceptual and theoretical frameworks of this study stem from the theory on Institutions which is from the field of Sociology, theory on Deception as empirically established in Psychology, Linguistics from Language Studies, Earnings Manipulation and Financial Statement Fraud which are contemporary areas in the Accounting and Auditing research. Accordingly, this study advances the advocacy of engaging in research that combines research efforts from different interdisciplinary fields of study (Amarante, 2016). Similarly, the conclusions of this study contribute to the need to give more attention to comparative study of organisations, with the view of evaluating their behaviours and how they differ from one sector to another (Whetten, 2009). In addition, the findings of this study emphasise the submissions of Professor Richard Scott (cited in Amarante, 2016, p. 3) on the need to understand how ideas and institutional actors behave in different countries and what makes them distinctive. This study contributes to this line of thought by adopting, replicating, and validating a predictive model originally developed for measuring Industry Discretion in the USA, with the view of assessing the amount of discretion afforded to industries in the UK.

Taken as a whole, this study contributes to the literature regarding institutions and organisations (e.g. Amarante, 2016; Boxembaum & Jonsson, 2013; Greenwood et al., 2013; Thronton & Ocasio, 2013;

Wooten & Hoffman, 2013) and the influence of discretion on organisational outcomes (Abrahamson & Hambrick, 1997; Hambrick & Abrahamson, 1995; McClelland et al., 2010; Wangrow et al., 2015). The empirical findings of this study complement the study by Hambrick and Abrahamson (1995) by validating the predictive model for measuring Industry Discretion in the UK context, for which no known or published research had been conducted for industries in the UK. Furthermore, it complements the study by Patelli and Pedrini (2015) who measured the relationship between financial reporting aggressiveness and tone at the top using the five Master Variables of DICTION. In the context of this study, the same Master Variables were evaluated in view of differentiating between the financial communications of top management of industries in high and low industry groups. The findings of this study contribute an additional layer of assessing the financial communications of top management as represented by the CEO for potential rhetorical manipulations in the context of institutions. This further offers a contribution to theory in not limiting the evaluation of financial communications to CEO letters to shareholders, but also validates the need to compare the thematic indicators of these letters with the discussions held with analysts. This approach contributes to the literature on evaluating different genres of text and scaling them in accordance to their readability (e.g. Biber, 1991; Louwerse et al., 2004)

As shown in prior studies (e.g. Brown & Treviño, 2006; Marsh, 2013; Spears, 1995), the deviation from common views and norms within an institution have the potential for financial statement fraud. Hence the findings of this study contribute to the research on the detection of potential deception in financial communications by revealing predictors of deviation from agreed-upon values by any company within a designated institutional environment. Furthermore, the findings of this study extend the prior research on the principle of legitimacy of discourse ethics in financial communications (e.g. Amernic et al., 2010; Patelli & Pedrini, 2013; Patelli & Pedrini, 2015; Yuthas et al., 2002) by showing that psycholinguistic analysis of corporate financial communications can reveal the economic contexts influencing organisational outcomes. The findings contribute to the research on how corporate narratives can help differentiate the financial communications of companies between periods of favourable and unfavourable financial performance results. In the same vein, this study contributes to the research on the need to differentiate between evaluative and non-evaluative statements of companies (e.g. Fiol, 1995) by showing that the CEO letters to shareholders are more susceptible to rhetorical manipulations than the discussions of CEOs with industry analysts. In sum, the findings have implications for both practice and regulation.

Accordingly, the findings and conclusions of this study have relevant practical implications for both investors and assurance providers – particularly auditors. Similar to the findings of prior studies (Merkl-Davies & Brennan, 2007; Patelli & Pedrini, 2015), the findings of this study show that thematic indicators

based on corporate financial communications provide differential information regarding accounting outcomes that can enhance the strategies of investors. Specifically, it provides investors with the knowledge of how top management communicates during favourable financial performance periods in comparison to periods of unfavourable financial performance results. This provides the potential for investors to develop the awareness of the use of language in communicating the economic realities of companies, which can aid the economic decisions of investors. Furthermore, it provides the awareness for investors on the need to obtain non-evaluative statements other than CEO letters in annual reports for comparing what CEOs write as letters to shareholders and the information they disclose to analysts. As the findings of this study suggest that there is a higher likelihood for information in CEO letters to shareholders to be manipulated in comparison to discussions with analysts, a vigilant investment community may have the need to step beyond relying on the content of those letters by obtaining, arguably, the more readable, comprehensive, and comprehensible discussions held with analysts.

With respect to assurance providers, the findings of this study also provide strong empirical evidence in line with recommendations by Amernic et al. (2010), Nicolaides, Trafford and Craig (2018) and Patelli and Pedrini (2015) for financial auditing. This study reinforces the recommendations from these prior studies advocating the incorporation of DICTION and other computational text-analysis approaches to enhance the auditing process and sophisticate the evaluation or investigation of the qualitative aspects of corporate financial communications. Accordingly, the availability of cost-effective computer-aided text analysis tools facilitates a rigorous analysis of the financial communications of companies to be applied on an ongoing longitudinal basis, in different institutional and economic contexts with promising consequences for the early detection of unethical accounting practices. Although the findings of this study do not connote that companies in a low discretion industry are less likely to engage in fraudulent financial reporting, notwithstanding, the results provide indication to assurance providers on the importance of conducting investigation of language in corporate cases in the context of their institutional environment, for the purpose of assessing the potential incidence of earnings management or financial statement fraud. In addition, the findings of this study is useful for auditors in considering the evaluation of corporate communications beyond managed and edited management representations to the evaluation of spontaneous disclosures such as discussions with analysts, interviews, among others.

With respect to the regulatory environment, the findings of this study reinforce the need for policy makers to advance policy guidelines on corporate narratives, especially on the need to make information available to the stakeholder community in the most transparent and comprehensive way. It is noteworthy that the findings of this study show that one of the companies with “very easy to understand” financial communications is BP Plc. Interestingly, this same company has all the discussions with its analysts

published on its official website under the section designated for investor relations. This suggests a culture of transparency in making as much information as possible available to investors to enhance sound economic decisions. Regulators such as the Financial Conduct Authority in the UK can institute regulation on this matter by ensuring that companies with analyst coverage should make the original transcripts of their discussions with analysts available for access by the stakeholder community. They can legislate for the discussions with analysts to be as available as CEO letters to shareholders contained in annual reports. Lastly, the findings of this study also support the recent move by the Securities and Exchange Commission in the USA toward the employment of computer-aided text analysis programmes to enhance its enforcement activity (Eaglesham, 2013), for which their counterparts in the UK can take initiative from this approach.

6.2 Limitations of Study and Recommendations

Although this study produced some significant and potentially important findings, there were limitations. First, the findings of this study may be limited to publicly traded companies based in the United Kingdom. Although similar findings were reported for measuring industry discretion in the USA, nonetheless, the results may neither be generalisable for firms beyond these two jurisdictions. Furthermore, it may be more difficult to generalise and extend the methodology of this study to companies operating in multiple exchanges across different countries, owing to differences in financial reporting requirements. However, the global presence of both the USA and UK in different economies of the world could influence their industry characteristics and financial reporting requirements, which may enable the generalisability of the results of this study to the extent to which they have similar industry characteristics and financial reporting structures. Furthermore, the sample industries used in this study included no moderate-discretion industry as conducted in McClelland et al. (2010), which may further limit the generalisability of the findings of this study. Future research will look into the aspects of companies in the moderate-discretion industry sector.

Second, as with the limitations acknowledged in prior studies, the measurement of discretion as it affects managers is not limited to industry factors alone (e.g. Abrahamson & Hambrick, 1997; Hambrick & Finkelstein, 1987). Specifically, Hambrick and Finkelstein (1987) argued that other influences such as organisational- and individual-level factors affect managerial discretion. Although industry-level factors influence the overall amount of discretion afforded to managers within an industry, nonetheless, the degree to which the discretion of a single manager deviates from the industry tendency is a function of individual factors such as a manager's cognitive complexity or political shrewdness (Abrahamson & Hambrick, 1997, p. 515). In addition, various organisational determinants such as age, size, or availability of resources may affect the level of discretion available to managers (Abrahamson & Hambrick, 1997).

Thus, as Hambrick and Finkelstein (1987) contended, discretion is not absolute, owing to the position that although industry and organisational factors may greatly shape a manager's discretion, however, discretion also functions in part within a manager (Abrahamson & Hambrick, 1997). In similar vein, the results of this study are limited to the industry factors that determine discretion without considering the effect of individual cognitive characteristics of the CEOs. Future research could look into these two aspects of organisational- and individual-level factors in determining the level of discretion available to managers.

Third, the main computational text analysis tool adopted in this study, DICTION, is limited to a set of predefined set of thematic indicators. Although validity was obtained for its use in this study by comparing it with another text-analysis tool, LIWC, nevertheless, the use of other text analyses tools could provide potential for discovering more indicators associated with financial communications.

Fourth, as emphasised by Fiol (1995) that non-evaluative statements of managers such as discussions with analysts may tend to reflect managerial cognitions more than evaluative statements such as CEO letters to shareholders, yet, the non-evaluative statements analysed in this study are limited to those authored by the CEOs. In this study, no analyses were conducted for the statements authored by other board members such as the Chief Financial Officer, the Chairman, among others. Although this study limited the analysis of financial communications to those authored by the CEO, nonetheless, it controlled for the possibility of multiple-authorship of CEO letters by obtaining the actual contributions of CEOs in discussions with analysts. Future research can look into evaluating the contributions of other board members in annual reports and discussions with analysts, to aid the robust understanding of corporate communications.

6.3 Other Recommendations and Directions for Future Research

Future research will focus on developing the industry classifications into high-, medium-, and low-discretion industries. In view of this, it will seek to incorporate other factors that may affect industry discretion such as empirical measures for how regulation, organisational and individual cognitive factors may affect the level of discretion available to top management. In addition, the findings of this study provide the potential for incorporating the aspects of Artificial Intelligence and Machine Learning towards developing algorithms for the tasks of psycholinguistic analysis of the financial communications of companies in different economic, industry, and geographical contexts. In similar vein, the algorithms can help with the task of automatically updating the dictionaries to meet contemporary use of words and help analyse the financial communications of companies for specific language features.

Furthermore, since there are other authors and contributors to narratives in annual reports and discussions with analysts, future research will seek to evaluate their contributions for comprehensive understanding of the corporate culture of companies with respect to financial communications. In addition, future research will focus on evaluating the "Question and Answer" sections of discussions with analysts as separate from the managed informational elements which are prepared in advance of those discussions with analysts. This could help in obtaining evidence on the differences in the psycholinguistic features of managed and spontaneous financial communications.

In conclusion, while further research is needed, this study demonstrates that the evaluation of the psycholinguistic features of the financial communications of companies with respect to industry and economic contexts is possible. Such possibility can provide the means for assessing the financial communications of individual organisations in comparison to sector competitors, for the purpose of analysing any irregular behaviour which may indicate potential deception in financial communications. The major results of this study certainly provide sufficient evidence that this institutional approach for evaluating financial communications is viable and that this paradigm can be further explored as an assessment of corporate narratives in the context of the discretion afforded to them, and in light of the industry they belong to. Furthermore, there have been no previous investigations of how text genres affect the readability of financial communications. Therefore, this study provides the potential for scaling financial communications according to their respective text genres, and for evaluating the readability of corporate communications in light of those that have greater potential for rhetorical manipulations, especially during periods of unfavourable financial performance results.

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APPENDICES

1. Ethic Certificate

University of Portsmouth

Certificate of Ethics Review

Project Title:	An Evaluation of Pyscholinguistic Analysis for Financial Communications in the Context of Institutional Theory
User ID:	748119
Name:	Bolaji Samson Iyiola
Application Date:	28/09/2018 12:12:13

You must download your certificate, print a copy and keep it as a record of this review.

It is your responsibility to adhere to the University Ethics Policy and any Department/School or professional guidelines in the conduct of your study including relevant guidelines regarding health and safety of researchers and University Health and Safety Policy.

It is also your responsibility to follow University guidance on Data Protection Policy:

- General guidance for all data protection issues
- University Data Protection Policy

You are reminded that as a University of Portsmouth Researcher you are bound by the UKRIO Code of Practice for Research; any breach of this code could lead to action being taken following the University's Procedure for the Investigation of Allegations of Misconduct in Research.

Any changes in the answers to the questions reflecting the design, management or conduct of the research over the course of the project must be notified to the Faculty Ethics Committee. **Any changes that affect the answers given in the questionnaire, not reported to the Faculty Ethics Committee, will invalidate this certificate.**

This ethical review should not be used to infer any comment on the academic merits or methodology of the project. If you have not already done so, you are advised to develop a clear protocol/proposal and ensure that it is independently reviewed by peers or others of appropriate standing. A favourable ethical opinion should not be perceived as permission to proceed with the research; there might be other matters of governance which require further consideration including the agreement of any organisation hosting the research.

GovernanceChecklist
A1-BriefDescriptionOfProject: In the context of the field of Accounting, one of the increasing areas of research is in the domain of accounting narratives. In view of this, this research aims to advance the work on evaluating and contrasting linguistic patterns in communications across companies and industries. It is proposed to draw and evaluate insights from research in the areas of institutional theory and impression management. Accordingly, the proposition of this research is that organisations in different industries are governed by institutionalised logic peculiar to each industry. Based on this logic, institutions become similar over time and communicate in an isomorphic pattern. As

Certificate Code: 1AB3-F5DC-2A34-0222-5377-4C11-CE5A-A215 Page 1

such, it is possible to ascertain, through the analysis of linguistic patterns among organisations, whether or not an organisation shows the tendency to be deceptive in the manner they communicate with their stakeholders, in a way different from their competitors. The aims therefore are:

- To review the literature in the areas of Institutional theory, Isomorphism and Legitimacy, Impression Management, Deception, Financial Statement Fraud, and Linguistic Analysis.
- With the literature and extant theory on psycholinguistics, to overlay the conceptual frameworks and develop hypotheses regarding institutional impression management especially relating to deception detection in corporate financial communications
- To derive thematic tests to inform future professional practice in the areas of audit and corporate governance.

A2-Faculty: PBS
A3-VoluntarilyReferToFEC: No
A5-AlreadyExternallyReviewed: No
B1-HumanParticipants: No
HumanParticipantsDefinition
B2-HumanParticipantsConfirmation: Yes
C6-SafetyRisksBeyondAssessment: No
D2-PhysicalEcologicalDamage: No
D4-HistoricalOrCulturalDamage: No
E1-ContentiousOrIllegal: No
E2-SociallySensitiveIssues: No
F1-InvolvesAnimals: No
F2-HarmfulToThirdParties: No
G1-ConfirmReadEthicsPolicy: Confirmed
G2-ConfirmReadUKRIOCodeOfPractice: Confirmed
G3-ConfirmReadConcordatToSupportResearchIntegrity: Confirmed
G4-ConfirmedCorrectInformation: Confirmed

2. Research Ethics Review Checklist – FORM UPR16

FORM UPR16

Research Ethics Review Checklist

Please include this completed form as an appendix to your thesis (see the Research Degrees Operational Handbook for more information

UNIVERSITY OF PORTSMOUTH

Postgraduate Research Student (PGRS) Information				**Student ID:**	748119
PGRS Name:	Bolaji Samson Iyiola				
Department:	Accounting and Financial Management	**First Supervisor:**	Richard Trafford		
Start Date: (or progression date for Prof Doc students)	October 2016				
Study Mode and Route:	Part-time ☐ Full-time ☒	MPhil ☐ PhD ☒	MD ☐ Professional Doctorate ☐		

Title of Thesis:	An Evaluation of Psycholinguistic Analysis for Financial Communications in the Context of Institutional Theory
Thesis Word Count: (excluding ancillary data)	86,603

If you are unsure about any of the following, please contact the local representative on your Faculty Ethics Committee for advice. Please note that it is your responsibility to follow the University's Ethics Policy and any relevant University, academic or professional guidelines in the conduct of your study

Although the Ethics Committee may have given your study a favourable opinion, the final responsibility for the ethical conduct of this work lies with the researcher(s).

UKRIO Finished Research Checklist:
(If you would like to know more about the checklist, please see your Faculty or Departmental Ethics Committee rep or see the online version of the full checklist at: http://www.ukrio.org/what-we-do/code-of-practice-for-research/)

a) Have all of your research and findings been reported accurately, honestly and within a reasonable time frame?	YES ☒ NO ☐
b) Have all contributions to knowledge been acknowledged?	YES ☒ NO ☐
c) Have you complied with all agreements relating to intellectual property, publication and authorship?	YES ☒ NO ☐
d) Has your research data been retained in a secure and accessible form and will it remain so for the required duration?	YES ☒ NO ☐
e) Does your research comply with all legal, ethical, and contractual requirements?	YES ☒ NO ☐

Candidate Statement:	
I have considered the ethical dimensions of the above named research project, and have successfully obtained the necessary ethical approval(s)	
Ethical review number(s) from Faculty Ethics Committee (or from NRES/SCREC):	1AB3-F5DC-2A34-0222-5377-4C11-CE5A-A215
If you have *not* submitted your work for ethical review, and/or you have answered 'No' to one or more of questions a) to e), please explain below why this is so:	
Signed *(PGRS)*:	**Date:** 4/12/2019

UPR16 – April 2018

3. Details on LIWC and DICTION

3a. LIWC

As with other textual analysis tools, there is both internal and external validity for the use of LIWC2015. With respect to internal validity, Pennebaker and Francis (1996) conducted one of the first tests to validate this tool and its measurement scales. An extensive writing test was conducted on college students to assess emotional content and included a control sample using unemotional language. After completing the writing phase of the experiment, the essays of the participants were rated by four judges on various emotional, cognitive, content, and composition dimensions structured to align to the selected scales of LIWC Dictionary (Pennebaker et al. 2015, p. 8).

By comparing the ratings of the judges and LIWC output, Pearson correlational analyses were computed to ascertain the validity of LIWC. The results suggested that LIWC successfully measures positive and negative affective processes, a number of cognitive processes, different types of thematic content, and several language composition elements (Pennebaker et al. 2015). As such, the level of agreement between the ratings of judges and LIWC's objective word count strategy provides sufficient evidence for the internal validity of LIWC. More importantly, the variables of another textual analysis known as Coh-Metrix has been proved to share some overlap with LIWC variables (McNamara et al. 2014). In a previous research, Duran, Hall, McCarthy, & McNamara (2010) successfully replicated a deception study that was originally conducted by the LIWC team. While both LIWC and Coh-Metrix share comparable descriptive variables, however, they slightly vary in their respective goals. Specifically, while LIWC establishes the extent to which a given language construct is present in a given text, Coh-Metrix assesses a text for indices on readability and comprehension (McNamara et al. 2014, p. 171).

With respect to the external validity, LIWC is widely accepted in the discourse community. With the presence of many alternative textual analysis tool, LIWC arguably has the most comparable history, availability, and breadth of interest to the discourse community. Accordingly, LIWC is considered to be the most suitable representative of alternative textual analysis tools (McNamara et al. 2014). The contribution of LIWC to both the discourse community and Automated Natural Language Processing (ANLP) studies cannot be overemphasised. While it may be considered to lack the sophisticated computations of more contemporary measures, its findings offer a formidable list of achievements (McNamara et al. 2014, p.171). Since the introduction of the first version of LIWC, several hundreds of studies have found the LIWC language categories to be valid, across many psychological domains (Pennebaker et al. 2015). Some of them are studies on First Person Singular Pronouns (Alexander-Emery, Cohen, & Prensky, 2005; Arguello, Butler, Joyce, Kraut, Ling, Rosé et al., 2006; Baddeley & Singer, 2008; Baikie, Wilhelm, Johnson, Boskovic, Wedgwood, Finch et al., 2006; Guastella & Dadds, 2006). Studies on First-Person Plural Pronouns (Alexander-Emery et al., 2005; Baddeley & Singer, 2008; Boals & Klein, 2005; Burke & Dollinger, 2005; Groom & Pennebaker, 2003). Studies on Cognitive Complexity (Arguello, Butler, Joyce, Kraut, Ling, Rosé et al., 2006; Barnes, Lawal-Solarin, & Lester, 2007; Hancock, Landrigan, & Silver, 2007; Heberlein, Adolphs, Pennebaker, & Tranel, 2003). Studies on Positive Emotion (Alvarez-Conrad, Zoellner, & Foa, 2001; Arguello, et al., 2006; Baddeley & Singer, 2008; Baikie, et al., 2006; Bantum & Owen, 2009; Batten, Follette, Hall, & Palm, 2002). Studies on Negative Emotion (Alvarez-Conrad, Zoellner, & Foa, 2001; Arguello, et al., 2006; Baddeley & Singer, 2008; Bantum & Owen, 2009; Beevers & Scott, 2001). Study on Certainty (Hancock, Curry, Goorha, & Woodworth, 2007). Studies on Past Focus and Present Focus (Alexander-Emery, et al., 2005; Boals & Klein, 2005; Guastella & Dadds, 2006; Hamilton-West & Quine, 2007). Studies on Motion (Bond & Lee, 2005; Hamilton-West & Quine, 2007; Oliver, Markland, Hardy, & Petherick, 2008), and Achievement (Guastella & Dadds, 2006; Lieberman, 2008; Sharp & Hargrove, 2004).

3b. DICTION

Furthermore, DICTION is capable of reading documents in different text formats, long documents and documents that contain a combination of both text and graphics, such as pdf-formatted company annual reports (Hart & Carroll, 2015). It uses a built-in database consisting of 50,000 previously analysed texts. In addition, text data can be processed using general norms or specified by the user, which can be selected from among thirty-six sub-categories, including newspaper editorials, poetry, business reports, speeches, among others, to get a comparative view of the results. The overall norms are classified into six groups – Business, Daily Life, Entertainment, Journalism, Literature, Politics, and Scholarship, which are then sub-divided into thirty-six distinct categories (Hart & Carroll, 2015, p. 47). The results produced can be compared against the total normative database of the forty scores, built on a 50,000-item sample of discourse, or any of the thirty-six sub-categories aforementioned. This is to ensure a more fine-grained comprehension of a given text or group of texts (Hart & Carroll, 2015). For the purpose of this study, the class 'Business' was selected as the norm, while 'Corporate Financial Reports' was selected as the sub-category. All the texts used in the creation of the DICTION software were produced in the United States between 1950 and 2000. Nonetheless, this software has been used in UK studies extensively and does not create any disparity in analysis between the differing American and UK spellings, which is allowed for within the software.

Subsequently, the results from DICTION are written to numeric files for onward statistical analysis. The output results are provided in a variety of options including raw totals, standardised scores, character and word counts, and percentages, thereby providing alternative ways of comprehending the text being processed. In addition to the sophisticated indices provided by DICTION, it also provides researchers with a range of conventional textual measures such as total words analysed, total characters analysed, average word size, and unique words.

Several studies have validated the use of DICTION indices most notably the reliability and validity in automated content analysis (Soroka, 2014). DICTION has also been used to assist in establishing a wealth of evidence on a variety of text analysis studies. These studies range from books and monographs on topic such as measuring and assessing tone at the top using CEO letters in annual reports (Amernic & Tourish, 2010). In some book chapters, DICTION was used in measuring the tone of annual reports as a strategic performance management tool (Kahveci, 2016), exploring signs of hubris in CEO language (Craig & Amernic, 2014), linguistic certainty in managerial announcements (Demers & Yu, 2014), fraud detection and corporate filings (Goel, 2014), executives' use of emotional language and investor reactions (Guo, 2014), measuring the tone of accounting and financial narrative (Henry & Leone, 2014). Others include corporate persona and optimistic language in annual reports (Nelson, Wang, Smith, & Blackford, 2014).

Patelli and Pedrini (2015) demonstrated that DICTION was an effective tool in detecting the association between tone at the top and financial reporting aggressiveness. Bozzolan, Cho, and Michelon (2015) used DICTION to measure impression management in the context of organisational audiences. Craig et al. (2013) used DICTION to explore top management language for signals of possible deception. Craig and Brennan (2012) used DICTION to explore the relationship between language choice in CEO letters to shareholders and corporate reputation. In addition, Cecchini et al. (2010) used DICTION to assess the predictability of financial events through the contents of financial text. Other DICTION studies include protecting value during post-earnings announcement conference calls (Jancenelle, Storrud-Barnes, Iaquinto, & Buccieri, 2016), natural language processing in accounting, auditing and finance (Fisher, Garnsey, & Hughes, 2016), disclosure outlets and corporate financial communication (Mayew, 2012), mining the annual reports for hidden cues indicative of financial statement fraud (Goel & Gangolly, 2012), management's tone change, post-earnings announcement drift and accruals (Feldman et al., 2010), predicting firm reputation through content analysis of shareholders' letters (Geppert & Lawrence, 2008), market reaction to verbal components of earnings press releases (Henry, 2006).

4. DICTION discussion on the key variables

From the macro-level of analysis, it is expected that the linguistic cues across the five DICTION master variables will be significantly different between high level-discretion industries and low-level discretion industries. As such, the research questions are stated thus per master variable.

(a) COMMONALITY

Definition: COMMONALITY is language highlighting the agreed-upon values of a group and rejecting idiosyncratic modes of engagement.

Formula: [Centrality + Cooperation + Rapport] – [Diversity + Exclusion + Liberation]

Micro-level analysis

In the course of performing the analysis on the COMMONALITY scores for the two industry classifications, the sub-features of COMMONALITY will be analysed using the equation from DICTION 7.0:

Formula: [Centrality + Cooperation + Rapport] – [Diversity + Exclusion + Liberation].

Features that increase COMMONALITY score

Centrality: This research will compute scores for terms denoting institutional regularities and/or substantive agreement on core values. Included are indigenous terms (*native, basic, innate*) and designations of legitimacy (*orthodox, decorum, constitutional, ratified*), systematicity (*paradigm, bureaucratic, ritualistic),* and typicality (*standardised, matter-of-fact, regularity).* Also included are terms of congruence (*conformity, mandate, unanimous),* predictability (*expected, continuity, reliable),* and universality (*womankind, perennial, landmarks).*

Cooperation: Also, computation will be conducted for terms designating behavioural interactions among people that often result in a group product. Included are designations of formal work relations (*unions, schoolmates, caucus),* and informal associations (*chum, partner, cronies*), to more intimate interactions (*sisterhood, friendship, comrade*). Also included are neutral interactions (*consolidate, mediate, alignment*), job-related tasks (*network, détente, exchange*), personal involvement (*teamwork, sharing, contribute*), and self-denial (*public-spirited, care-taking, self-sacrifice*).

Rapport: Also to be computed are scores for terms that describe attitudinal similarities among groups of people. Included are terms of affinity (*congenial, camaraderie, companion*), assent (*approve, vouched, warrants*), deference (*tolerant, willing, permission*), and id identity (*equivalent, resemble, consensus*).

The features highlighted above increase the score for the Master Variable COMMONALITY. By drawing from the insights on isomorphism and discretion, this research proposes that the above sub-features of COMMONALITY will be more manifest in companies in low discretion industry category than in companies in high discretion industry category. Accordingly, this research states that:

The sub-feature scores for Centrality, Cooperation, and Rapport will be significantly higher for companies in the low discretion industry than in the high discretion industry.

Features that decrease COMMONALITY score

Diversity: This research will compute scores for words describing individuals or groups of individuals differing from the norm. Such distinctiveness may be comparatively neutral (*inconsistent, contrasting, non-conformist*) but it can also be positive (*exceptional, unique, individualistic*) and negative (*illegitimate, rabble-rouser, extremist*). Functionally, heterogeneity can be an asset (*far-flung, dispersed, diffuse*) or a

liability (*factionalism, deviancy, quirky*) as can its characterisations: *rare* vs. *queer*, *variety* vs. *jumble*, *distinctive* vs. *disobedient*.

Exclusion: Also, computation will be conducted for terms describing the sources and effects of social isolation. Such seclusion can be phrased passively (*displaced, sequestered*) as well as positively (*self-contained, self-sufficient*) and negatively (*outlaws, repudiated*). Moreover, it can result from voluntary forces (*secede, privacy*) and involuntary forces (*ostracise, forsake, discriminate*) and from both personality factors (*smallmindedness, loneliness*) and political factors (*right-wingers, nihilism*). Exclusion is often a dialectical concept: *hermit* vs. *derelict, refugee* vs. *pariah, discard* vs. *spurn*

Liberation: Also to be computed are scores for terms describing the maximising of individual choice (*autonomous, open-minded, options*) and rejection of social conventions (*unencumbered, radical, released*). Liberation is motivated by both personality factors (*eccentric, impetuous, flighty*) and political forces (*suffrage, liberty, freedom, emancipation*) and may produce dramatic outcomes (*exodus, riotous, deliverance*) or subdued effects (*loosen, disentangle, outpouring*). Liberatory terms also admit to rival characterisations: *exemption* vs. *loophole, elope* vs. *abscond*, *uninhibited* vs. *outlandish.*

The features highlighted above decrease the score for the Master Variable COMMONALITY. By drawing from the insights on isomorphism and discretion, this research proposes that the above sub-features of COMMONALITY will be more manifest in companies in high discretion industry category than in companies in low discretion industry category. Accordingly, this research states that:

The sub-feature scores for Diversity, Exclusion, and Liberation will be significantly higher for companies in the high discretion industry than in the low discretion industry.

(b) CERTAINTY

Definition: Certainty is language indicating resoluteness, inflexibility, and completeness and a tendency to speak ex cathedra.

Formula: [Tenacity + Levelling Terms + Collectives + Insistence] – [Numerical Terms + Ambivalence + Self Reference + Variety]

Micro-level analysis

In the course of performing the analysis on the CERTAINTY scores for the two industry classifications, the sub-features of CERTAINTY will be analysed using the equation from DICTION 7.0:

Formula: [Tenacity + Levelling Terms + Collectives + Insistence] – [Numerical Terms + Ambivalence + Self Reference + Variety]

Features that increase CERTAINTY score

Tenacity: This research will compute scores for all uses of verb **to be** (*is, am, will, shall*), three definitive verb forms (*has, must, do*) and their variants, as well as all associated contraction's (*he'll, they've, ain't*). These verbs connote confidence and totality.

Leveling Terms: Also to be computed are words used to ignore individual differences and to build a sense of completeness and assurance. Included are **totalising items** (*everybody, anyone, each, fully),* adverbs of **permanence** (*always, completely, inevitably, consistently*), and **resolute objectives** (*unconditional, consummate, absolute, open-and-shut*).

Collectives: Also to be computed are scores for singular nouns connoting plurality that function to decrease specificity. These words reflect a dependence on categorical modes of thought. Included are

social groupings (*crowd, choir, team, humanity*), **task groups** (*army, congress, legislature, staff*) and **geographical entities** (*county, world, kingdom, republic*).

Insistence: Further, scores will be computed for words used for code-restriction and semantic contentedness. The assumption is that repetition of key terms indicates a preference for a limited, ordered world.

The features highlighted above increase the score for the Master Variable CERTAINTY. By drawing from the insights on isomorphism and discretion, this research proposes that the above sub-features of CERTAINTY will be more manifest in companies in high discretion industry category than in companies in low discretion industry category. Accordingly, this research states that:

The sub-feature scores for Tenacity, Leveling Terms, Collectives, and Insistence will be significantly higher for companies in the high discretion industry than in the low discretion industry.

Features that decrease CERTAINTY score

Numerical Terms: Computation will be made for any sum, date, or product specifying the facts in a given case. Diction dictionary treats each isolated integer as a single word and each separate group of integers as a single word. In addition, the dictionary contains common numbers in **lexical format** (*one, tenfold, hundred, zero*) as well as terms indicating **numerical operations** (*subtract, divide, multiply, percentage*) *and* ***quantitative topics*** *(digitise, tally, mathematics).* The presumption is that *Numerical Terms* hyper-specify a claim, thus detracting from its universality.

Ambivalence: Words expressing hesitation or uncertainty, implying a speaker's inability or unwillingness to commit to the verbalisation being made. Included are **hedges** (*allegedly, perhaps, might*), statements of **inexactness** (*almost, approximate, vague, somewhere*) and **confusion** (*baffled, puzzling, hesitate*). Also included are words of **restrained possibility** (*could, would, he'd*) and **mystery** (*dilemma, guess, suppose, seems*).

Self-reference: Computations will be made for all **first-person references**, including I, I'd, I'll, I'm, I've, me, mine, my, myself. Self-references are treated as acts of indexing whereby the locus of action appears to reside in the speaker and not in the world at large, thereby implicitly acknowledging the speaker's limited vision.

Variety: This measure conforms to **Wendell Johnson's (1946) Type-token Ratio** which divides the number of different words in a passage by the passage's total words. A high score indicates a speaker's avoidance of overstatement and a preference for precise, molecular statements.

The features highlighted above decrease the score for the Master Variable CERTAINTY. By drawing from the insights on isomorphism and discretion, this research proposes that the above sub-features of CERTAINTY will be more manifest in companies in low discretion industry category than in companies in high discretion industry category. Accordingly, this research states that:

The sub-feature scores for* Numerical Terms, Ambivalence, Self-reference, and Variety *will be significantly lower for companies in the high discretion industry than in the low discretion industry.

(c) ACTIVITY

Definition: Activity is language featuring movement, change, the implementation of ideas and the avoidance of inertia.

Formula: [Aggression + Accomplishment + Communication + Motion] – [Cognition + Passivity + Embellishment]

Micro-level analysis

In the course of performing the analysis on the ACTIVITY scores for the two industry classifications, the sub-features of ACTIVITY will be analysed using the equation from DICTION 7.0:

Formula: [Aggression + Accomplishment + Communication + Motion] – [Cognition + Passivity + Embellishment]

Features that increase ACTIVITY score

Aggression: Computation will be made for words embracing human competition and forceful action. Its terms connote **physical energy** (*blast, crash, explode, collide*), **social domination** (*conquest, attacking, dictatorships, violation*), and goal-directedness (*crusade, commanded, challenging, overcome*). In addition, words associated with **personal triumph** (*mastered, rambunctious, pushy*), **excess human energy** (*prod, poke, pound, shove*), **disassembly** (*dismantle, demolish, overturn, veto*), and **resistance** (*prevent, reduce, defend, curbed*) are included.

Accomplishment: Also to be assessed are words expressing **task-completion** (*establish, finish, influence, proceed*) and **organised human behaviour** (*motivated, influence, leader, manage*). Includes **capitalistic terms** (*buy, produce, employees, sell*), **modes of expansion** (*grow, increase, generate, construction*) and **general functionality** (*handling, strengthen, succeed, outputs*). Also included is **programmatic language:** agenda, enacted, working, leadership.

Communication: Also to be computed are terms referring to social interaction, both **face-to-face** (*listen, interview, read, speak*), and **mediated** (*film, videotape, telephone, e-mail*). The dictionary includes both **modes of intercourse** (*translate, quote, scripts, broadcast*) and **moods of intercourse** (*chat, declare, flatter, demand*). Other terms refer to **social actors** (*reporter, spokesperson, advocates, preacher*) and a variety of **social purposes** (*hint, rebuke, respond, persuade*).

Motion: Also to be computed are terms connoting **human movement** (*bustle, job, lurch, leap*), **physical purposes** (*circulate, momentum, revolve, twist*), **journeys** (*barnstorm, jaunt, wandering, travels*), **speed** (*lickety-split, nimble, zip, whistle-stop*), and **modes of transit** (*ride, fly, glide, swim*).

The features highlighted above increase the score for the Master Variable ACTIVITY. By drawing from the insights on isomorphism and discretion, this research proposes that the above sub-features of ACTIVITY will be more manifest in companies in high discretion industry category than in companies in low discretion industry category. Accordingly, this research states that:

The sub-feature scores for Aggression, Accomplishment, Communication, and Motion will be significantly higher for companies in the high discretion industry than in the low discretion industry.

Features that decrease ACTIVITY score

Cognition: Computation will be made words referring to cerebral processes, both functional and imaginative. Included are **modes of discovery** (*learn, deliberate, consider, compare*) and domains of study (*biology, psychology, logic, economics*). The dictionary includes **mental challenges** (*question, forget, re-examine, paradoxes*), **institutional learning practices** (*graduation, teaching, classrooms*), as well as three forms of intellection: **intuitional** (*invent, perceive, speculate, interpret*), **rationalistic** (*estimate, examine, reasonable, strategies*), and **calculative** (*diagnose, analyse, software, fact-finding*).

Passivity: Also to be computed are words ranging from neutrality to inactivity. It includes terms of **compliance** (*allow, tame, appeasement*), **docility** (*submit, contented, sluggish*), and **cessation** (*arrested, capitulate, refrain, yielding*). Also contains tokens of **inertness** (*backward, immobile, silence, inhibit*) and disinterest (*unconcerned, nonchalant, stoic*), as well as **tranquillity** (*quietly, sleepy, vacation*).

Embellishment: A selective ratio of adjectives to verbs based on David Boder's (1940) conception that heavy modification slows down a verbal passage by the de-emphasising human and material action.

The features highlighted above decrease the score for the Master Variable ACTIVITY. By drawing from the insights on isomorphism and discretion, this research proposes that the above sub-features of ACTIVITY will be more manifest in companies in low discretion industry category than in companies in high discretion industry category. Accordingly, this research states that:

The sub-feature scores for Cognition, Passivity, and Embellishment will be significantly lower for companies in the high discretion industry than in the low discretion industry.

(d) REALISM

Definition: Realism is language describing tangible, immediate, recognisable matters that affect people's everyday lives.

Formula: [Familiarity + Spatial Terms + Temporal Terms + Present Concern + Human Interest + Concreteness] – [Past Concern + Complexity]

Micro-level analysis

In the course of performing the analysis on the REALISM scores for the two industry classifications, the sub-features of REALISM will be analysed using the equation from DICTION 7.0:

Formula: [Familiarity + Spatial Terms + Temporal Terms + Present Concern + Human Interest + Concreteness] – [Past Concern + Complexity]

Features that increase REALISM score

Familiarity: This consists of a selected number of C.K. Ogden's (1968) operation words which he calculates to be the most common words in the English Language. Included are **common prepositions** (*across, over, through*), **demonstrative pronouns** (*this, that*) and interrogative pronouns (*who, what),* a variety of **particles, conjunctions and connectives** (*a, for, so*).

Spatial Terms: To be computed are terms referring to geographical entities, physical distances, and modes of measurement. Included are **general geographical terms** (*abroad, elbow-room, locale, outdoors*) as well as **specific ones** (*Ceylon, Kuwait, Poland*). Also included are politically defined locations (*county, fatherland, municipality, ward*)**, points on the compass** (*east, southwest*) and **the globe** (*latitude, coastal, border, snowbelt*), as well as **terms of scale** (*kilometre, map, spacious*), **quality** (*vacant, out-of-the-way, disoriented*) and **change** (*pilgrimage, migrated, frontier*).

Temporal Terms: Terms that fix a person, idea, or event within a specific time-interval, thereby signalling a concern for concrete and practical matters. The dictionary designates **literal time** (*century, instant, mid-morning*) as well as **metaphorical designations** (*lingering, seniority, nowadays*). Also, included are **calendrical terms** (*autumn, year-round, weekend*), **elliptical terms** (*spontaneously, postpone, transitional*), and **judgmental terms** (*premature, obsolete, punctual*).

Present Concern: A selective list of present-tense verbs extrapolated from C.K Ogden's list of general and picturable terms, all of which occur with great frequency in standard American English. The dictionary

is not topic-specific but points instead to **general physical activity** (*cough, taste, sing, take*), **social operations** (*canvass, touch, govern, meet*), and task-performance (*make, cook, print, paint*).

Human Interest: An adaptation of Rudolph Flesch's notion that concentrating on people and their activities gives discourse a life-like quality. Included are **standard personal pronouns** (*he, his, ourselves, them*), **family members and relations** (*cousin, wife, grandchild, uncle*), and **generic terms** (*friend, baby, human, persons*).

Concreteness: A large dictionary possessing no thematic unity other than tangibility and neutrality. Included are **sociological units** (*peasants, African-Americans, Catholics*), **occupational groups** (*carpenter, manufacturer, policewoman*), and **political alignments** (*Communists, Congressman, Europeans*). Also incorporated are **physical structures** (*courthouse, temple, store*), **forms of diversion** (*television, football, CD-ROM*), **terms of accountancy** (*mortgage, wages, finances*), and **modes of transportation** (*airplane, ship, bicycle*). In addition, the dictionary includes **body parts** (*stomach, eyes, lips*), **articles of clothing** (*slacks, pants, shirt*), **household animals** (*cat, insects, horse*), and **foodstuffs** (*wine, grain, sugar*) and **general elements of nature** (*oil, silk, sand*).

The features highlighted above increase the score for the Master Variable REALISM. By drawing from the insights on isomorphism and discretion, this research proposes that the above sub-features of REALISM will be more manifest in companies in low discretion industry category than in companies in high discretion industry category. Accordingly, this research states that:

The sub-feature scores for Familiarity, Spatial Terms, Temporal Terms, Present Concern, Human Interest, and Concreteness will be significantly higher for companies in the low discretion industry than in the high discretion industry.

Features that decrease REALISM score

Past Concern: The past-tense forms of the verbs contained in the Present Concern dictionary.

Complexity: A simple measure of the average number of characters-per-word in a given input file. Borrows Rudolph Flesch's (1951) notion that convoluted phrasings make a text's ideas abstract and its implications unclear.

The features highlighted above decrease the score for the Master Variable REALISM. By drawing from the insights on isomorphism and discretion, this research proposes that the above sub-features of REALISM will be more manifest in companies in high discretion industry category than in companies in low discretion industry category. Accordingly, this research states that:

The sub-feature scores for Past Concern and Complexity will be significantly higher for companies in the high discretion industry than in the low discretion industry.

(e) OPTIMISM

Definition: Optimism is language endorsing some person, group, concept, or event or highlighting their positive entailments.

Formula: [Praise + Satisfaction + Inspiration] – [Blame + Hardship + Denial]

Micro-level analysis

In the course of performing the analysis on the OPTIMISM scores for the two industry classifications, the sub-features of OPTIMISM will be analysed using the equation from DICTION 7.0:

Formula: [Praise + Satisfaction + Inspiration] – [Blame + Hardship + Denial]

Features that increase OPTIMISM score

Praise: Words that are used in the affirmation of person, group, or abstract entity. Included are terms isolating important **social qualities** (*dear, delightful, witty*), **physical qualities** (*mighty, handsome, beautiful*), **intellectual qualities** (*shrewd, bright, vigilant, reasonable*), **entrepreneurial qualities** (*successful, conscientious, renowned*), and **moral qualities** (*faithful, good, noble*). All terms in this dictionary are adjectives.

Satisfaction: Terms associated with **positive affective states** (*cheerful, passionate, happiness*), with moments of **undiminished joy** (*thanks, smile, welcome*) and **pleasurable diversion** (*excited, fun, lucky*), **or moments of triumph** (*celebrating, pride, auspicious*). Also, included are **words of nurturance** (*healing, courage, secure, relieved*).

Inspiration: Abstract virtues deserving of universal respect. Most of the terms in this dictionary are nouns isolating **desirable moral qualities** (*faith, honesty, self-sacrifice, virtue*) as well as **attractive personal qualities** (*courage, dedication, wisdom, mercy*). **Social and political ideas** are also included (*patriotism, success, education, justice*).

The features highlighted above increase the score for the Master Variable OPTIMIISM. By drawing from the insights on isomorphism and discretion, this research proposes that the above sub-features of OPTIMISM will be more manifest in companies in high discretion industry category than in companies in low discretion industry category. Accordingly, this research states that:

The sub-feature scores for Praise, Satisfaction, and Inspiration will be significantly higher for companies in the high discretion industry than in the low discretion industry.

Features that decrease OPTIMISM score

Blame: Terms designating **social inappropriateness** (*mean, naïve, sloppy, stupid*), as well as **downright evil** (*fascist, blood-thirsty, repugnant, malicious*) compose this dictionary. In addition, adjectives describing **unfortunate circumstances** (*bankrupt, rash, morbid, embarrassing*) or **unplanned vicissitudes** (*weary, nervous, painful, detrimental*) are included. The dictionary also contains **outright denigrations** (*cruel, illegitimate, offensive, miserly*).

Hardship: This dictionary, contains **natural disasters** (*earthquake, starvation, tornado, pollution*), **hostile actions** (*killers, bankruptcy, enemies, vices*) and **censurable human behaviour** (*infidelity, despots, betrayal*). It also includes **unsavoury political outcomes** (*injustice, slavery, exploitation, rebellion*) as well as **normal human fears** (*grief, unemployment, died, apprehension*) and in **capacities** (*error, cop-outs, weakness*).

Denial: A dictionary consisting of standard **negative contractions** (*aren't shouldn't, don't*), **negative function words** (*nor, not, nay*), and terms designating **null sets** (*nothing, nobody, none*).

The features highlighted above decrease the score for the Master Variable OPTIMISM. By drawing from the insights on isomorphism and discretion, this research proposes that the above sub-features of OPTIMISM will be more manifest in companies in low discretion industry category than in companies in high discretion industry category. Accordingly, this research states that:

The sub-feature scores for Blame, Hardship, and Denial will be significantly higher for companies in the low discretion industry than in the high discretion industry.

5. The Tables on Z-Scores

Annual Reports						
	DICTION Mean	DICTION STDev	Low Discretion	z score	High Discretion	z score
COMMONALITY	49.57	2.71	49.60	0.01	48.85	-0.27
CERTAINTY	49.43	2.53	47.39	-0.81	48.73	-0.28
ACTIVITY	51.11	4.37	49.25	-0.43	49.90	-0.28
REALISM	49.36	3.26	53.88	1.39	53.10	1.15
OPTIMISM	49.31	2.94	54.52	1.77	54.76	1.85
Analysts' Discussions						
	DICTION Mean	DICTION STDev	Low Discretion	z score	High Discretion	z score
COMMONALITY	49.57	2.71	48.33	-0.46	48.22	-0.50
CERTAINTY	49.43	2.53	39.62	-3.88	38.28	-4.41
ACTIVITY	51.11	4.37	49.85	-0.29	49.88	-0.28
REALISM	49.36	3.26	57.56	2.52	57.24	2.42
OPTIMISM	49.31	2.94	54.43	1.74	54.85	1.88

Annual Reports						
	DICTION Mean	DICTION STDev	Low Discretion	z score	High Discretion	z score
Centrality	4.36	3.18	5.92	0.49	4.98	0.19
Cooperation	4.40	4.04	6.93	0.63	7.58	0.79
Rapport	2.34	1.92	1.62	-0.38	1.49	-0.44
Diversity	1.94	1.87	1.89	-0.03	2.48	0.29
Exclusion	2.14	2.17	2.61	0.22	3.15	0.47
Liberation	2.13	2.59	0.75	-0.53	0.89	-0.48
Analysts' Discussions						
	DICTION Mean	DICTION STDev	Low Discretion	z score	High Discretion	z score
Centrality	4.36	3.18	3.17	-0.37	2.82	-0.48
Cooperation	4.40	4.04	3.33	-0.26	2.85	-0.38
Rapport	2.34	1.92	1.31	-0.54	1.36	-0.51
Diversity	1.94	1.87	2.25	0.17	2.44	0.27
Exclusion	2.14	2.17	1.75	-0.18	1.81	-0.15
Liberation	2.13	2.59	0.76	-0.53	0.64	-0.58

Annual Reports						
	DICTION Mean	DICTION STDev	Low Discretion	z score	High Discretion	z score
Tenacity	31.54	8.22	20.58	-1.33	20.00	-1.40
Levelling Terms	8.89	3.87	4.82	-1.05	4.64	-1.10
Collectives	9.25	5.21	8.67	-0.11	8.31	-0.18
Insistence	60.15	51.00	69.39	0.18	80.81	0.41
Numerical Terms	7.67	7.37	24.00	2.22	21.20	1.84
Ambivalence	12.85	6.36	4.16	-1.37	3.28	-1.50
Self-Reference	6.96	8.14	2.47	-0.55	1.61	-0.66
Variety	0.49	0.04	0.55	1.50	0.55	1.50
Analysts' Discussions						
	DICTION Mean	DICTION STDev	Low Discretion	z score	High Discretion	z score
Tenacity	31.54	8.22	41.06	1.16	40.58	1.10
Levelling Terms	8.89	3.87	10.05	0.30	10.23	0.35
Collectives	9.25	5.21	5.01	-0.81	4.34	-0.94
Insistence	60.15	51.00	35.69	-0.48	33.32	-0.53
Numerical Terms	7.67	7.37	13.49	0.79	10.89	0.44
Ambivalence	12.85	6.36	20.04	1.13	21.06	1.29
Self-Reference	6.96	8.14	8.44	0.18	9.26	0.28
Variety	0.49	0.04	0.53	1.00	0.52	0.75

Annual Reports						
	DICTION Mean	DICTION STDev	Low Discretion	z score	High Discretion	z score
Aggression	5.43	4.36	3.58	-0.42	3.12	-0.53
Accomplishment	14.37	9.41	34.57	2.15	35.55	2.25
Communication	7.00	4.79	2.21	-1.00	2.62	-0.91
Motion	2.26	2.09	1.95	-0.15	2.46	0.10
Cognition	9.35	4.92	7.51	-0.37	7.21	-0.43
Passivity	5.09	2.99	8.26	1.06	7.62	0.85
Embellishment	0.65	0.49	0.98	0.67	0.74	0.18
Analysts' Discussions						
	DICTION Mean	DICTION STDev	Low Discretion	z score	High Discretion	z score
Aggression	5.43	4.36	1.88	-0.81	2.35	-0.71
Accomplishment	14.37	9.41	15.37	0.11	17.43	0.33
Communication	7.00	4.79	8.57	0.33	7.39	0.08
Motion	2.26	2.09	3.92	0.79	4.16	0.91
Cognition	9.35	4.92	11.66	0.47	12.46	0.63
Passivity	5.09	2.99	4.69	-0.13	4.13	-0.32
Embellishment	0.65	0.49	0.75	0.20	0.84	0.39

Annual Reports						
	DICTION Mean	DICTION STDev	Low Discretion	z score	High Discretion	z score
Familiarity	132.53	14.66	125.14	-0.50	123.55	-0.61
Spatial Terms	12.01	7.84	9.11	-0.37	8.38	-0.46
Temporal Terms	15.09	6.73	15.36	0.04	15.77	0.10
Present Concern	11.84	4.82	7.87	-0.82	8.27	-0.74
Human Interest	31.81	13.68	25.19	-0.48	26.23	-0.41
Concreteness	19.60	8.90	14.83	-0.54	13.03	-0.74
Past Concern	3.58	2.61	2.10	-0.57	2.69	-0.34
Complexity	4.61	0.30	5.07	1.53	5.20	1.97
Analysts' Discussions						
	DICTION Mean	DICTION STDev	Low Discretion	z score	High Discretion	z score
Familiarity	132.53	14.66	129.53	-0.20	131.46	-0.07
Spatial Terms	12.01	7.84	9.02	-0.38	9.06	-0.38
Temporal Terms	15.09	6.73	16.85	0.26	15.99	0.13
Present Concern	11.84	4.82	14.38	0.53	14.42	0.54
Human Interest	31.81	13.68	31.21	-0.04	30.77	-0.08
Concreteness	19.60	8.90	9.97	-1.08	9.36	-1.15
Past Concern	3.58	2.61	3.49	-0.03	3.99	0.16
Complexity	4.61	0.30	4.41	-0.67	4.42	-0.63

Annual Reports						
	DICTION Mean	DICTION STDev	Low Discretion	z score	High Discretion	z score
Praise	6.18	3.41	5.58	-0.18	5.54	-0.19
Satisfaction	3.28	2.81	3.32	0.01	3.36	0.03
Inspiration	6.34	4.78	7.64	0.27	8.28	0.41
Blame	2.11	2.05	0.62	-0.73	0.51	-0.78
Hardship	5.87	4.61	1.34	-0.98	1.60	-0.93
Denial	6.46	3.89	1.10	-1.38	0.74	-1.47
Analysts' Discussions						
	DICTION Mean	DICTION STDev	Low Discretion	z score	High Discretion	z score
Praise	6.18	3.41	6.51	0.10	7.33	0.34
Satisfaction	3.28	2.81	6.09	1.00	6.23	1.05
Inspiration	6.34	4.78	2.92	-0.72	3.16	-0.67
Blame	2.11	2.05	0.95	-0.57	0.98	-0.55
Hardship	5.87	4.61	1.25	-1.00	1.32	-0.99
Denial	6.46	3.89	5.75	-0.18	5.73	-0.19

Annual Reports						
	LIWC Mean	LIWC STDev	Low Discretion	z score	High Discretion	z score
Tone	54.22	23.27	79.22	1.07	83.56	1.26
First Person Sing.	4.99	2.46	0.36	-1.88	0.21	-1.94
First Person Plur.	0.72	0.83	4.26	4.27	4.53	4.59
Positive Emotion	3.67	1.63	3.88	0.13	3.97	0.18
Negative Emotion	1.84	1.09	0.69	-1.06	0.48	-1.25
Certainty	1.35	0.70	1.05	-0.43	1.00	-0.50
Achievement	1.30	0.82	3.62	2.83	4.10	3.41
Risk	0.47	0.41	0.45	-0.05	0.34	-0.32
Past Focus	4.64	2.06	1.97	-1.30	1.95	-1.31
Present Focus	9.96	2.80	5.21	-1.70	5.19	-1.70
Motion	2.15	1.03	2.83	0.66	3.06	0.88
Analysts' Discussions						
	LIWC Mean	LIWC STDev	Low Discretion	z score	High Discretion	z score
Tone	54.22	23.27	69.96	0.68	78.19	1.03
First Person Sing.	4.99	2.46	1.35	-1.48	1.44	-1.44
First Person Plur.	0.72	0.83	5.04	5.20	4.96	5.11
Positive Emotion	3.67	1.63	2.98	-0.42	3.43	-0.15
Negative Emotion	1.84	1.09	0.55	-1.18	0.46	-1.27
Certainty	1.35	0.70	1.34	-0.01	1.39	0.06
Achievement	1.30	0.82	2.17	1.06	2.50	1.46
Risk	0.47	0.41	0.28	-0.46	0.27	-0.49
Past Focus	4.64	2.06	2.80	-0.89	2.82	-0.88
Present Focus	9.96	2.80	10.63	0.24	10.66	0.25
Motion	2.15	1.03	2.53	0.37	2.78	0.61

Annual Reports						
	DICTION Mean	DICTION STDev	Low Discretion (G)	z score	High Discretion (G)	z score
COMMONALITY	49.57	2.71	49.55	-0.01	48.90	-0.25
CERTAINTY	49.43	2.53	48.03	-0.55	48.89	-0.21
ACTIVITY	51.11	4.37	49.12	-0.46	49.92	-0.27
REALISM	49.36	3.26	53.96	1.41	53.03	1.13
OPTIMISM	49.31	2.94	54.70	1.83	54.72	1.84
Analysts' Discussions						
	DICTION Mean	DICTION STDev	Low Discretion (G)	z score	High Discretion (G)	z score
COMMONALITY	49.57	2.71	48.07	-0.55	48.24	-0.49
CERTAINTY	49.43	2.53	39.15	-4.06	38.29	-4.40
ACTIVITY	51.11	4.37	50.05	-0.24	49.86	-0.29
REALISM	49.36	3.26	57.58	2.52	57.13	2.38
OPTIMISM	49.31	2.94	54.65	1.82	54.71	1.84

Annual Reports						
	DICTION Mean	DICTION STDev	Low Discretion (B)	z score	High Discretion (B)	z score
COMMONALITY	49.57	2.71	49.68	0.04	47.56	-0.74
CERTAINTY	49.43	2.53	46.01	-1.35	45.82	-1.43
ACTIVITY	51.11	4.37	49.52	-0.36	49.51	-0.37
REALISM	49.36	3.26	53.75	1.35	54.27	1.51
OPTIMISM	49.31	2.94	54.28	1.69	55.38	2.06
Analysts' Discussions						
	DICTION Mean	DICTION STDev	Low Discretion (B)	z score	High Discretion (B)	z score
COMMONALITY	49.57	2.71	48.81	-0.28	47.92	-0.61
CERTAINTY	49.43	2.53	40.45	-3.55	38.09	-4.48
ACTIVITY	51.11	4.37	49.46	-0.38	50.24	-0.20
REALISM	49.36	3.26	57.53	2.51	59.16	3.01
OPTIMISM	49.31	2.94	53.94	1.57	57.14	2.66

Annual Reports						
	DICTION Mean	DICTION STDev	Low Discretion (G)	z score	Low Discretion (B)	z score
COMMONALITY	49.57	2.71	49.55	-0.01	49.68	0.04
CERTAINTY	49.43	2.53	48.03	-0.55	46.01	-1.35
ACTIVITY	51.11	4.37	49.12	-0.46	49.52	-0.36
REALISM	49.36	3.26	53.96	1.41	53.75	1.35
OPTIMISM	49.31	2.94	54.70	1.83	54.28	1.69
Analysts' Discussions						
	DICTION Mean	DICTION STDev	Low Discretion (G)	z score	Low Discretion (B)	z score
COMMONALITY	49.57	2.71	48.07	-0.55	48.81	-0.28
CERTAINTY	49.43	2.53	39.15	-4.06	40.45	-3.55
ACTIVITY	51.11	4.37	50.05	-0.24	49.46	-0.38
REALISM	49.36	3.26	57.58	2.52	57.53	2.51
OPTIMISM	49.31	2.94	54.65	1.82	53.94	1.57

Annual Reports						
	DICTION Mean	DICTION STDev	High Discretion (G)	z score	High Discretion (B)	z score
COMMONALITY	49.57	2.71	48.90	-0.25	47.91	-0.61
CERTAINTY	49.43	2.53	48.89	-0.21	45.82	-1.43
ACTIVITY	51.11	4.37	49.92	-0.27	49.51	-0.37
REALISM	49.36	3.26	53.03	1.13	54.27	1.51
OPTIMISM	49.31	2.94	54.72	1.84	55.38	2.06
Analysts' Discussions						
	DICTION Mean	DICTION STDev	High Discretion (G)	z score	High Discretion (B)	z score
COMMONALITY	49.57	2.71	48.24	-0.49	47.92	-0.61
CERTAINTY	49.43	2.53	38.29	-4.40	38.09	-4.48
ACTIVITY	51.11	4.37	49.86	-0.29	50.24	-0.20
REALISM	49.36	3.26	57.13	2.38	59.16	3.01
OPTIMISM	49.31	2.94	54.71	1.84	57.14	2.66

Annual Reports						
	DICTION Mean	DICTION STDev	Low Discretion (G)	z score	High Discretion (G)	z score
Centrality	4.36	3.18	6.02	0.52	5.03	0.21
Cooperation	4.40	4.04	7.37	0.74	7.63	0.80
Rapport	2.34	1.92	1.63	-0.37	1.48	-0.45
Diversity	1.94	1.87	2.09	0.08	2.09	0.08
Exclusion	2.14	2.17	2.74	0.28	3.17	0.47
Liberation	2.13	2.59	0.77	-0.53	0.84	-0.50
Analysts' Discussions						
	DICTION Mean	DICTION STDev	Low Discretion (G)	z score	High Discretion (G)	z score
Centrality	4.36	3.18	3.03	-0.42	2.86	-0.47
Cooperation	4.40	4.04	3.36	-0.26	2.87	-0.38
Rapport	2.34	1.92	1.16	-0.61	1.36	-0.51
Diversity	1.94	1.87	2.31	0.20	2.45	0.27
Exclusion	2.14	2.17	1.76	-0.18	1.83	-0.14
Liberation	2.13	2.59	0.85	-0.49	0.63	-0.58

Annual Reports						
	DICTION Mean	DICTION STDev	Low Discretion (B)	z score	High Discretion (B)	z score
Centrality	4.36	3.18	5.65	0.41	4.12	-0.08
Cooperation	4.40	4.04	6.16	0.44	6.64	0.55
Rapport	2.34	1.92	1.57	-0.40	1.67	-0.35
Diversity	1.94	1.87	1.52	-0.22	2.41	0.25
Exclusion	2.14	2.17	2.36	0.10	2.70	0.26
Liberation	2.13	2.59	0.71	-0.55	1.79	-0.13
Analysts' Discussions						
	DICTION Mean	DICTION STDev	Low Discretion (B)	z score	High Discretion (B)	z score
Centrality	4.36	3.18	3.43	-0.29	2.22	-0.67
Cooperation	4.40	4.04	3.24	-0.29	2.46	-0.48
Rapport	2.34	1.92	1.61	-0.38	1.23	-0.58
Diversity	1.94	1.87	2.16	0.12	2.32	0.20
Exclusion	2.14	2.17	1.73	-0.19	1.52	-0.29
Liberation	2.13	2.59	0.58	-0.60	0.82	-0.51

Annual Reports						
	DICTION Mean	DICTION STDev	Low Discretion (G)	z score	Low Discretion (B)	z score
Centrality	4.36	3.18	6.02	0.52	5.65	0.41
Cooperation	4.40	4.04	7.37	0.74	6.16	0.44
Rapport	2.34	1.92	1.63	-0.37	1.57	-0.40
Diversity	1.94	1.87	2.09	0.08	1.52	-0.22
Exclusion	2.14	2.17	2.74	0.28	2.36	0.10
Liberation	2.13	2.59	0.77	-0.53	0.71	-0.55
Analysts' Discussions						
	DICTION Mean	DICTION STDev	Low Discretion (G)	z score	Low Discretion (B)	z score
Centrality	4.36	3.18	3.03	-0.42	3.43	-0.29
Cooperation	4.40	4.04	3.36	-0.26	3.24	-0.29
Rapport	2.34	1.92	1.16	-0.61	1.61	-0.38
Diversity	1.94	1.87	2.31	0.20	2.16	0.12
Exclusion	2.14	2.17	1.76	-0.18	1.73	-0.19
Liberation	2.13	2.59	0.85	-0.49	0.58	-0.60

Annual Reports						
	DICTION Mean	DICTION STDev	High Discretion (G)	z score	High Discretion (B)	z score
Centrality	4.36	3.18	5.03	0.21	4.96	0.19
Cooperation	4.40	4.04	7.63	0.80	7.15	0.68
Rapport	2.34	1.92	1.48	-0.45	1.32	-0.53
Diversity	1.94	1.87	2.48	0.29	2.62	0.36
Exclusion	2.14	2.17	3.17	0.47	3.16	0.47
Liberation	2.13	2.59	0.84	-0.50	0.91	-0.47
Analysts' Discussions						
	DICTION Mean	DICTION STDev	High Discretion (G)	z score	High Discretion (B)	z score
Centrality	4.36	3.18	2.86	-0.47	2.22	-0.67
Cooperation	4.40	4.04	2.87	-0.38	2.46	-0.48
Rapport	2.34	1.92	1.36	-0.51	1.23	-0.58
Diversity	1.94	1.87	2.45	0.27	2.32	0.20
Exclusion	2.14	2.17	1.83	-0.14	1.52	-0.29
Liberation	2.13	2.59	0.63	-0.58	0.82	-0.51

Annual Reports						
	DICTION Mean	DICTION STDev	Low Discretion (G)	z score	High Discretion (G)	z score
Tenacity	31.54	8.22	20.56	-1.34	21.41	-1.23
Levelling Terms	8.89	3.87	4.91	-1.03	4.64	-1.10
Collectives	9.25	5.21	9.22	-0.01	8.38	-0.17
Insistence	60.15	51.00	73.19	0.26	81.05	0.41
Numerical Terms	7.67	7.37	24.22	2.25	21.41	1.86
Ambivalence	12.85	6.36	4.15	-1.37	3.20	-1.52
Self-Reference	6.96	8.14	2.05	-0.60	1.50	-0.67
Variety	0.49	0.04	0.55	1.50	0.55	1.50
Analysts' Discussions						
	DICTION Mean	DICTION STDev	Low Discretion (G)	z score	High Discretion (G)	z score
Tenacity	31.54	8.22	41.72	1.24	40.51	1.09
Levelling Terms	8.89	3.87	9.80	0.24	10.17	0.33
Collectives	9.25	5.21	4.91	-0.83	4.36	-0.94
Insistence	60.15	51.00	36.00	-0.47	33.80	-0.52
Numerical Terms	7.67	7.37	12.85	0.70	10.97	0.45
Ambivalence	12.85	6.36	20.38	1.18	20.87	1.26
Self-Reference	6.96	8.14	8.71	0.21	9.27	0.28
Variety	0.49	0.04	0.53	1.00	0.52	0.75

Annual Reports						
	DICTION Mean	DICTION STDev	Low Discretion (B)	z score	High Discretion (B)	z score
Tenacity	31.54	8.22	20.77	-1.31	19.33	-1.49
Levelling Terms	8.89	3.87	4.65	-1.10	4.54	-1.12
Collectives	9.25	5.21	7.74	-0.29	7.15	-0.40
Insistence	60.15	51.00	61.75	0.03	76.68	0.32
Numerical Terms	7.67	7.37	23.59	2.16	17.39	1.32
Ambivalence	12.85	6.36	4.16	-1.37	4.65	-1.29
Self-Reference	6.96	8.14	3.28	-0.45	3.46	-0.43
Variety	0.49	0.04	0.56	1.75	0.55	1.50
Analysts' Discussions						
	DICTION Mean	DICTION STDev	Low Discretion (B)	z score	High Discretion (B)	z score
Tenacity	31.54	8.22	39.78	1.00	41.74	1.24
Levelling Terms	8.89	3.87	10.48	0.41	11.29	0.62
Collectives	9.25	5.21	5.21	-0.78	4.09	-0.99
Insistence	60.15	51.00	35.21	-0.49	25.34	-0.68
Numerical Terms	7.67	7.37	14.76	0.96	9.54	0.25
Ambivalence	12.85	6.36	19.25	1.01	24.11	1.77
Self-Reference	6.96	8.14	7.91	0.12	9.12	0.27
Variety	0.49	0.04	0.52	0.75	0.51	0.50

Annual Reports						
	DICTION Mean	DICTION STDev	Low Discretion (G)	z score	Low Discretion (B)	z score
Tenacity	31.54	8.22	20.56	-1.34	20.77	-1.31
Levelling Terms	8.89	3.87	4.91	-1.03	4.65	-1.10
Collectives	9.25	5.21	9.22	-0.01	7.74	-0.29
Insistence	60.15	51.00	73.19	0.26	61.75	0.03
Numerical Terms	7.67	7.37	24.22	2.25	23.59	2.16
Ambivalence	12.85	6.36	4.15	-1.37	4.16	-1.37
Self-Reference	6.96	8.14	2.05	-0.60	3.28	-0.45
Variety	0.49	0.04	0.55	1.50	0.56	1.75
Analysts' Discussions						
	DICTION Mean	DICTION STDev	Low Discretion (G)	z score	Low Discretion (B)	z score
Tenacity	31.54	8.22	41.72	1.24	39.78	1.00
Levelling Terms	8.89	3.87	9.80	0.24	10.48	0.41
Collectives	9.25	5.21	4.91	-0.83	5.21	-0.78
Insistence	60.15	51.00	36.00	-0.47	35.21	-0.49
Numerical Terms	7.67	7.37	12.85	0.70	14.76	0.96
Ambivalence	12.85	6.36	20.38	1.18	19.25	1.01
Self-Reference	6.96	8.14	8.71	0.21	7.91	0.12
Variety	0.49	0.04	0.53	1.00	0.52	0.75

Annual Reports						
	DICTION Mean	DICTION STDev	High Discretion (G)	z score	High Discretion (B)	z score
Tenacity	31.54	8.22	20.04	-1.40	19.70	-1.44
Levelling Terms	8.89	3.87	4.64	-1.10	4.61	-1.11
Collectives	9.25	5.21	8.38	-0.17	8.47	-0.15
Insistence	60.15	51.00	81.05	0.41	82.33	0.43
Numerical Terms	7.67	7.37	21.41	1.86	22.42	2.00
Ambivalence	12.85	6.36	3.20	-1.52	3.07	-1.54
Self-Reference	6.96	8.14	1.50	-0.67	1.53	-0.67
Variety	0.49	0.04	0.55	1.50	0.54	1.25
Analysts' Discussions						
	DICTION Mean	DICTION STDev	High Discretion (G)	z score	High Discretion (B)	z score
Tenacity	31.54	8.22	40.51	1.09	41.74	1.24
Levelling Terms	8.89	3.87	10.17	0.33	11.29	0.62
Collectives	9.25	5.21	4.36	-0.94	4.09	-0.99
Insistence	60.15	51.00	33.80	-0.52	25.34	-0.68
Numerical Terms	7.67	7.37	10.97	0.45	9.54	0.25
Ambivalence	12.85	6.36	20.87	1.26	24.11	1.77
Self-Reference	6.96	8.14	9.27	0.28	9.12	0.27
Variety	0.49	0.04	0.52	0.75	0.51	0.50

Annual Reports						
	DICTION Mean	DICTION STDev	Low Discretion (G)	z score	High Discretion (G)	z score
Aggression	5.43	4.36	3.31	-0.49	3.12	-0.53
Accomplishment	14.37	9.41	33.54	2.04	35.57	2.25
Communication	7.00	4.79	2.34	-0.97	2.63	-0.91
Motion	2.26	2.09	2.10	-0.08	2.49	0.11
Cognition	9.35	4.92	7.52	-0.37	7.16	-0.45
Passivity	5.09	2.99	8.24	1.05	7.63	0.85
Embellishment	0.65	0.49	1.05	0.82	0.75	0.20
Analysts' Discussions						
	DICTION Mean	DICTION STDev	Low Discretion (G)	z score	High Discretion (G)	z score
Aggression	5.43	4.36	1.92	-0.81	2.30	-0.72
Accomplishment	14.37	9.41	15.37	0.11	17.52	0.33
Communication	7.00	4.79	8.51	0.32	7.41	0.09
Motion	2.26	2.09	3.95	0.81	4.21	0.93
Cognition	9.35	4.92	11.75	0.49	12.51	0.64
Passivity	5.09	2.99	4.28	-0.27	4.17	-0.31
Embellishment	0.65	0.49	0.60	-0.10	0.86	0.43

Annual Reports						
	DICTION Mean	DICTION STDev	Low Discretion (B)	z score	High Discretion (B)	z score
Aggression	5.43	4.36	4.04	-0.32	3.24	-0.50
Accomplishment	14.37	9.41	36.32	2.33	35.25	2.22
Communication	7.00	4.79	1.97	-1.05	2.32	-0.98
Motion	2.26	2.09	1.68	-0.28	1.79	-0.22
Cognition	9.35	4.92	7.43	-0.39	8.12	-0.25
Passivity	5.09	2.99	8.19	1.04	7.30	0.74
Embellishment	0.65	0.49	0.81	0.33	0.59	-0.12
Analysts' Discussions						
	DICTION Mean	DICTION STDev	Low Discretion (B)	z score	High Discretion (B)	z score
Aggression	5.43	4.36	1.80	-0.83	3.15	-0.52
Accomplishment	14.37	9.41	15.36	0.11	15.80	0.15
Communication	7.00	4.79	8.69	0.35	7.03	0.01
Motion	2.26	2.09	3.83	0.75	3.36	0.53
Cognition	9.35	4.92	11.48	0.43	11.59	0.46
Passivity	5.09	2.99	5.47	0.13	3.42	-0.56
Embellishment	0.65	0.49	1.06	0.84	0.47	-0.37

Annual Reports						
	DICTION Mean	DICTION STDev	Low Discretion (G)	z score	Low Discretion (B)	z score
Aggression	5.43	4.36	3.31	-0.49	4.04	-0.32
Accomplishment	14.37	9.41	33.54	2.04	36.32	2.33
Communication	7.00	4.79	2.34	-0.97	1.97	-1.05
Motion	2.26	2.09	2.10	-0.08	1.68	-0.28
Cognition	9.35	4.92	7.52	-0.37	7.43	-0.39
Passivity	5.09	2.99	8.24	1.05	7.43	0.78
Embellishment	0.65	0.49	1.05	0.82	0.81	0.33
Analysts' Discussions						
	DICTION Mean	DICTION STDev	Low Discretion (G)	z score	Low Discretion (B)	z score
Aggression	5.43	4.36	1.92	-0.81	1.80	-0.83
Accomplishment	14.37	9.41	15.37	0.11	15.36	0.11
Communication	7.00	4.79	8.51	0.32	8.69	0.35
Motion	2.26	2.09	3.95	0.81	3.83	0.75
Cognition	9.35	4.92	11.75	0.49	11.48	0.43
Passivity	5.09	2.99	4.28	-0.27	5.47	0.13
Embellishment	0.65	0.49	0.60	-0.10	1.06	0.84

Annual Reports						
	DICTION Mean	DICTION STDev	High Discretion (G)	z score	High Discretion (B)	z score
Aggression	5.43	4.36	3.12	-0.53	2.96	-0.57
Accomplishment	14.37	9.41	35.57	2.25	35.72	2.27
Communication	7.00	4.79	2.63	-0.91	2.72	-0.89
Motion	2.26	2.09	2.49	0.11	2.72	0.22
Cognition	9.35	4.92	7.16	-0.45	7.51	-0.37
Passivity	5.09	2.99	7.63	0.85	7.72	0.88
Embellishment	0.65	0.49	0.75	0.20	0.77	0.24
Analysts' Discussions						
	DICTION Mean	DICTION STDev	High Discretion (G)	z score	High Discretion (B)	z score
Aggression	5.43	4.36	2.30	-0.72	3.15	-0.52
Accomplishment	14.37	9.41	17.52	0.33	15.80	0.15
Communication	7.00	4.79	7.41	0.09	7.03	0.01
Motion	2.26	2.09	4.21	0.93	3.36	0.53
Cognition	9.35	4.92	12.51	0.64	11.59	0.46
Passivity	5.09	2.99	4.17	-0.31	3.42	-0.56
Embellishment	0.65	0.49	0.86	0.43	0.47	-0.37

Annual Reports						
	DICTION Mean	DICTION STDev	Low Discretion (G)	z score	High Discretion (G)	z score
Familiarity	132.53	14.66	124.34	-0.56	123.56	-0.61
Spatial Terms	12.01	7.84	9.27	-0.35	8.44	-0.46
Temporal Terms	15.09	6.73	15.59	0.07	15.79	0.10
Present Concern	11.84	4.82	8.33	-0.73	8.10	-0.78
Human Interest	31.81	13.68	25.22	-0.48	26.04	-0.42
Concreteness	19.60	8.90	14.19	-0.61	13.10	-0.73
Past Concern	3.58	2.61	2.07	-0.58	2.71	-0.33
Complexity	4.61	0.30	5.07	1.53	5.21	2.00
Analysts' Discussions						
	DICTION Mean	DICTION STDev	Low Discretion (G)	z score	High Discretion (G)	z score
Familiarity	132.53	14.66	128.78	-0.26	131.16	-0.09
Spatial Terms	12.01	7.84	9.11	-0.37	9.19	-0.36
Temporal Terms	15.09	6.73	16.81	0.26	15.87	0.12
Present Concern	11.84	4.82	14.66	0.59	14.23	0.50
Human Interest	31.81	13.68	31.90	0.01	30.48	-0.10
Concreteness	19.60	8.90	9.21	-1.17	9.47	-1.14
Past Concern	3.58	2.61	3.64	0.02	4.02	0.17
Complexity	4.61	0.30	4.40	-0.70	4.43	-0.60

Annual Reports						
	DICTION Mean	DICTION STDev	Low Discretion (B)	z score	High Discretion (B)	z score
Familiarity	132.53	14.66	126.62	-0.40	123.31	-0.63
Spatial Terms	12.01	7.84	8.84	-0.40	7.39	-0.59
Temporal Terms	15.09	6.73	14.99	-0.01	15.42	0.05
Present Concern	11.84	4.82	7.11	-0.98	11.33	-0.11
Human Interest	31.81	13.68	25.08	-0.49	29.71	-0.15
Concreteness	19.60	8.90	15.81	-0.43	11.88	-0.87
Past Concern	3.58	2.61	2.16	-0.54	2.35	-0.47
Complexity	4.61	0.30	5.06	1.50	5.14	1.77
Analysts' Discussions						
	DICTION Mean	DICTION STDev	Low Discretion (B)	z score	High Discretion (B)	z score
Familiarity	132.53	14.66	131.17	-0.09	136.45	0.27
Spatial Terms	12.01	7.84	8.85	-0.40	6.98	-0.64
Temporal Terms	15.09	6.73	16.92	0.27	17.88	0.41
Present Concern	11.84	4.82	13.85	0.42	17.54	1.18
Human Interest	31.81	13.68	29.80	-0.15	35.63	0.28
Concreteness	19.60	8.90	11.47	-0.91	7.61	-1.35
Past Concern	3.58	2.61	3.21	-0.14	3.47	-0.04
Complexity	4.61	0.30	4.43	-0.60	4.30	-1.03

Annual Reports						
	DICTION Mean	DICTION STDev	Low Discretion (G)	z score	Low Discretion (B)	z score
Familiarity	132.53	14.66	124.34	-0.56	126.62	-0.40
Spatial Terms	12.01	7.84	9.27	-0.35	8.84	-0.40
Temporal Terms	15.09	6.73	15.59	0.07	14.99	-0.01
Present Concern	11.84	4.82	8.33	-0.73	7.11	-0.98
Human Interest	31.81	13.68	25.22	-0.48	25.08	-0.49
Concreteness	19.60	8.90	14.19	-0.61	15.81	-0.43
Past Concern	3.58	2.61	2.07	-0.58	2.16	-0.54
Complexity	4.61	0.30	5.07	1.53	5.06	1.50
Analysts' Discussions						
	DICTION Mean	DICTION STDev	Low Discretion (G)	z score	Low Discretion (B)	z score
Familiarity	132.53	14.66	128.78	-0.26	131.17	-0.09
Spatial Terms	12.01	7.84	9.11	-0.37	8.85	-0.40
Temporal Terms	15.09	6.73	16.81	0.26	16.92	0.27
Present Concern	11.84	4.82	14.66	0.59	13.85	0.42
Human Interest	31.81	13.68	31.90	0.01	29.80	-0.15
Concreteness	19.60	8.90	9.21	-1.17	11.47	-0.91
Past Concern	3.58	2.61	3.64	0.02	3.21	-0.14
Complexity	4.61	0.30	4.40	-0.70	4.43	-0.60

Annual Reports						
	DICTION Mean	DICTION STDev	High Discretion (G)	z score	High Discretion (B)	z score
Familiarity	132.53	14.66	123.56	-0.61	123.31	-0.63
Spatial Terms	12.01	7.84	8.44	-0.46	7.39	-0.59
Temporal Terms	15.09	6.73	15.79	0.10	15.42	0.05
Present Concern	11.84	4.82	8.10	-0.78	11.33	-0.11
Human Interest	31.81	13.68	26.04	-0.42	29.71	-0.15
Concreteness	19.60	8.90	13.10	-0.73	11.88	-0.87
Past Concern	3.58	2.61	2.71	-0.33	2.35	-0.47
Complexity	4.61	0.30	5.21	2.00	5.14	1.77
Analysts' Discussions						
	DICTION Mean	DICTION STDev	High Discretion (G)	z score	High Discretion (B)	z score
Familiarity	132.53	14.66	131.16	-0.09	136.45	0.27
Spatial Terms	12.01	7.84	9.19	-0.36	6.98	-0.64
Temporal Terms	15.09	6.73	15.87	0.12	17.88	0.41
Present Concern	11.84	4.82	14.23	0.50	17.54	1.18
Human Interest	31.81	13.68	30.48	-0.10	35.63	0.28
Concreteness	19.60	8.90	9.47	-1.14	7.61	-1.35
Past Concern	3.58	2.61	4.02	0.17	3.47	-0.04
Complexity	4.61	0.30	4.43	-0.60	4.30	-1.03

Annual Reports						
	DICTION Mean	DICTION STDev	Low Discretion (G)	z score	High Discretion (G)	z score
Praise	6.18	3.41	5.93	-0.07	5.47	-0.21
Satisfaction	3.28	2.81	3.57	0.10	3.31	0.01
Inspiration	6.34	4.78	7.46	0.23	8.29	0.41
Blame	2.11	2.05	0.68	-0.70	0.51	-0.78
Hardship	5.87	4.61	1.47	-0.95	1.56	-0.93
Denial	6.46	3.89	1.13	-1.37	0.70	-1.48
Analysts' Discussions						
	DICTION Mean	DICTION STDev	Low Discretion (G)	z score	High Discretion (G)	z score
Praise	6.18	3.41	6.62	0.13	7.37	0.35
Satisfaction	3.28	2.81	6.34	1.09	6.01	0.97
Inspiration	6.34	4.78	3.11	-0.68	3.21	-0.65
Blame	2.11	2.05	0.95	-0.57	0.99	-0.55
Hardship	5.87	4.61	1.30	-0.99	1.31	-0.99
Denial	6.46	3.89	5.84	-0.16	5.70	-0.20

Annual Reports						
	DICTION Mean	DICTION STDev	Low Discretion (B)	z score	High Discretion (B)	z score
Praise	6.18	3.41	4.97	-0.35	6.69	0.15
Satisfaction	3.28	2.81	2.90	-0.14	4.29	0.36
Inspiration	6.34	4.78	8.03	0.35	8.06	0.36
Blame	2.11	2.05	0.53	-0.77	0.44	-0.81
Hardship	5.87	4.61	1.10	-1.03	2.32	-0.77
Denial	6.46	3.89	1.04	-1.39	1.49	-1.28
Analysts' Discussions						
	DICTION Mean	DICTION STDev	Low Discretion (B)	z score	High Discretion (B)	z score
Praise	6.18	3.41	6.29	0.03	6.69	0.15
Satisfaction	3.28	2.81	5.56	0.81	10.01	2.40
Inspiration	6.34	4.78	2.54	-0.79	2.36	-0.83
Blame	2.11	2.05	0.94	-0.57	0.81	-0.63
Hardship	5.87	4.61	1.15	-1.02	1.38	-0.97
Denial	6.46	3.89	5.55	-0.23	6.29	-0.04

Annual Reports						
	DICTION Mean	DICTION STDev	Low Discretion (G)	z score	Low Discretion (B)	z score
Praise	6.18	3.41	5.93	-0.07	4.97	-0.35
Satisfaction	3.28	2.81	3.57	0.10	2.90	-0.14
Inspiration	6.34	4.78	7.46	0.23	8.03	0.35
Blame	2.11	2.05	0.68	-0.70	0.53	-0.77
Hardship	5.87	4.61	1.47	-0.95	1.10	-1.03
Denial	6.46	3.89	1.13	-1.37	1.04	-1.39
Analysts' Discussions						
	DICTION Mean	DICTION STDev	Low Discretion (G)	z score	Low Discretion (B)	z score
Praise	6.18	3.41	6.62	0.13	6.29	0.03
Satisfaction	3.28	2.81	6.34	1.09	5.56	0.81
Inspiration	6.34	4.78	3.11	-0.68	2.54	-0.79
Blame	2.11	2.05	0.95	-0.57	0.94	-0.57
Hardship	5.87	4.61	1.30	-0.99	1.15	-1.02
Denial	6.46	3.89	5.84	-0.16	5.55	-0.23

Annual Reports						
	DICTION Mean	DICTION STDev	High Discretion (G)	z score	High Discretion (B)	z score
Praise	6.18	3.41	5.47	-0.21	6.69	0.15
Satisfaction	3.28	2.81	3.31	0.01	4.29	0.36
Inspiration	6.34	4.78	8.29	0.41	8.06	0.36
Blame	2.11	2.05	0.51	-0.78	0.44	-0.81
Hardship	5.87	4.61	1.56	-0.93	2.32	-0.77
Denial	6.46	3.89	0.70	-1.48	1.49	-1.28
Analysts' Discussions						
	DICTION Mean	DICTION STDev	High Discretion (G)	z score	High Discretion (B)	z score
Praise	6.18	3.41	7.37	0.35	6.69	0.15
Satisfaction	3.28	2.81	6.01	0.97	10.01	2.40
Inspiration	6.34	4.78	3.21	-0.65	2.36	-0.83
Blame	2.11	2.05	0.99	-0.55	0.81	-0.63
Hardship	5.87	4.61	1.31	-0.99	1.38	-0.97
Denial	6.46	3.89	5.70	-0.20	6.29	-0.04

Annual Reports						
	LIWC Mean	LIWC STDev	Low Discretion (G)	z score	High Discretion (G)	z score
Tone	54.22	23.27	80.57	1.13	83.25	1.25
First Person Sing.	4.99	2.46	0.28	-1.91	0.20	-1.95
First Person Plur.	0.72	0.83	4.19	4.18	4.51	4.57
Positive Emotion	3.67	1.63	3.93	0.16	3.96	0.18
Negative Emotion	1.84	1.09	0.66	-1.08	0.49	-1.24
Certainty	1.35	0.70	1.04	-0.44	1.00	-0.50
Achievement	1.30	0.82	3.58	2.78	4.10	3.41
Risk	0.47	0.41	0.44	-0.07	0.35	-0.29
Past Focus	4.64	2.06	1.90	-1.33	1.96	-1.30
Present Focus	9.96	2.80	5.25	-1.68	5.15	-1.72
Motion	2.15	1.03	2.91	0.74	3.08	0.90
Analysts' Discussions						
	LIWC Mean	**LIWC STDev**	**Low Discretion (G)**	**z score**	**High Discretion (G)**	**z score**
Tone	54.22	23.27	71.87	0.76	77.95	1.02
First Person Sing.	4.99	2.46	1.37	-1.47	1.43	-1.45
First Person Plur.	0.72	0.83	4.93	5.07	4.93	5.07
Positive Emotion	3.67	1.63	3.06	-0.37	3.42	-0.15
Negative Emotion	1.84	1.09	0.53	-1.20	0.47	-1.26
Certainty	1.35	0.70	1.36	0.01	1.39	0.06
Achievement	1.30	0.82	2.18	1.07	2.52	1.49
Risk	0.47	0.41	0.27	-0.49	0.27	-0.49
Past Focus	4.64	2.06	2.86	-0.86	2.83	-0.88
Present Focus	9.96	2.80	10.57	0.22	10.61	0.23
Motion	2.15	1.03	2.58	0.42	2.79	0.62

Annual Reports						
	LIWC Mean	LIWC STDev	Low Discretion (B)	z score	High Discretion (B)	z score
Tone	54.22	23.27	76.88	0.97	89.02	1.50
First Person Sing.	4.99	2.46	0.55	-1.80	0.51	-1.82
First Person Plur.	0.72	0.83	4.37	4.40	4.91	5.05
Positive Emotion	3.67	1.63	3.81	0.09	4.14	0.29
Negative Emotion	1.84	1.09	0.75	-1.00	0.31	-1.40
Certainty	1.35	0.70	1.07	-0.40	1.03	-0.46
Achievement	1.30	0.82	3.71	2.94	4.05	3.35
Risk	0.47	0.41	0.47	0.00	0.26	-0.51
Past Focus	4.64	2.06	2.10	-1.23	1.79	-1.38
Present Focus	9.96	2.80	5.21	-1.70	5.85	-1.47
Motion	2.15	1.03	2.69	0.52	2.73	0.56
Analysts' Discussions						
	LIWC Mean	**LIWC STDev**	**Low Discretion (B)**	**z score**	**High Discretion (B)**	**z score**
Tone	54.22	23.27	66.27	0.52	82.27	1.21
First Person Sing.	4.99	2.46	1.31	-1.50	1.51	-1.41
First Person Plur.	0.72	0.83	5.27	5.48	5.37	5.60
Positive Emotion	3.67	1.63	2.82	-0.52	3.62	-0.03
Negative Emotion	1.84	1.09	0.59	-1.15	0.38	-1.34
Certainty	1.35	0.70	1.32	-0.04	1.52	0.24
Achievement	1.30	0.82	2.13	1.01	2.17	1.06
Risk	0.47	0.41	0.29	-0.44	0.29	-0.44
Past Focus	4.64	2.06	2.70	-0.94	2.55	-1.01
Present Focus	9.96	2.80	10.74	0.28	11.54	0.56
Motion	2.15	1.03	2.42	0.26	2.56	0.40

Annual Reports						
	LIWC Mean	LIWC STDev	Low Discretion (G)	z score	Low Discretion (B)	z score
Tone	54.22	23.27	80.57	1.13	76.88	0.97
First Person Sing.	4.99	2.46	0.28	-1.91	0.55	-1.80
First Person Plur.	0.72	0.83	4.19	4.18	4.37	4.40
Positive Emotion	3.67	1.63	3.93	0.16	3.81	0.09
Negative Emotion	1.84	1.09	0.66	-1.08	0.75	-1.00
Certainty	1.35	0.70	1.04	-0.44	1.07	-0.40
Achievement	1.30	0.82	3.58	2.78	3.71	2.94
Risk	0.47	0.41	0.44	-0.07	0.47	0.00
Past Focus	4.64	2.06	1.90	-1.33	2.10	-1.23
Present Focus	9.96	2.80	5.25	-1.68	5.21	-1.70
Motion	2.15	1.03	2.91	0.74	2.69	0.52
Analysts' Discussions						
	LIWC Mean	**LIWC STDev**	**Low Discretion (G)**	**z score**	**Low Discretion (B)**	**z score**
Tone	54.22	23.27	71.87	0.76	66.27	0.52
First Person Sing.	4.99	2.46	1.37	-1.47	1.31	-1.50
First Person Plur.	0.72	0.83	4.93	5.07	5.27	5.48
Positive Emotion	3.67	1.63	3.06	-0.37	2.82	-0.52
Negative Emotion	1.84	1.09	0.53	-1.20	0.59	-1.15
Certainty	1.35	0.70	1.36	0.01	1.32	-0.04
Achievement	1.30	0.82	2.18	1.07	2.13	1.01
Risk	0.47	0.41	0.27	-0.49	0.29	-0.44
Past Focus	4.64	2.06	2.86	-0.86	2.70	-0.94
Present Focus	9.96	2.80	10.57	0.22	10.74	0.28
Motion	2.15	1.03	2.58	0.42	2.42	0.26

Annual Reports						
	LIWC Mean	LIWC STDev	High Discretion (G)	z score	High Discretion (B)	z score
Tone	54.22	23.27	83.25	1.25	89.02	1.50
First Person Sing.	4.99	2.46	0.20	-1.95	0.51	-1.82
First Person Plur.	0.72	0.83	4.51	4.57	4.91	5.05
Positive Emotion	3.67	1.63	3.96	0.18	4.14	0.29
Negative Emotion	1.84	1.09	0.49	-1.24	0.31	-1.40
Certainty	1.35	0.70	1.00	-0.50	1.03	-0.46
Achievement	1.30	0.82	4.10	3.41	4.05	3.35
Risk	0.47	0.41	0.35	-0.29	0.26	-0.51
Past Focus	4.64	2.06	1.96	-1.30	1.79	-1.38
Present Focus	9.96	2.80	5.15	-1.72	5.85	-1.47
Motion	2.15	1.03	3.08	0.90	2.73	0.56
Analysts' Discussions						
	LIWC Mean	**LIWC STDev**	**High Discretion (G)**	**z score**	**High Discretion (B)**	**z score**
Tone	54.22	23.27	77.95	1.02	82.27	1.21
First Person Sing.	4.99	2.46	1.43	-1.45	1.51	-1.41
First Person Plur.	0.72	0.83	4.93	5.07	5.37	5.60
Positive Emotion	3.67	1.63	3.42	-0.15	3.62	-0.03
Negative Emotion	1.84	1.09	0.47	-1.26	0.38	-1.34
Certainty	1.35	0.70	1.39	0.06	1.52	0.24
Achievement	1.30	0.82	2.52	1.49	2.17	1.06
Risk	0.47	0.41	0.27	-0.49	0.29	-0.44
Past Focus	4.64	2.06	2.83	-0.88	2.55	-1.01
Present Focus	9.96	2.80	10.61	0.23	11.54	0.56
Motion	2.15	1.03	2.79	0.62	2.56	0.40

6. Summary of Good and Bad Times

6a. Summary of Good and Bad times using Net Income Surprise – Low Discretion Industry

Industry (Bloomberg categorisation)	Net Income Surprise (%)				
Low Discretion Industry	Year 1	Year 2	Year 3	Year 4	Year 5
Acacia Mining plc	-5.35%	-25.84%	61.90%	-0.85%	-67.86%
Antofagasta plc	8.26%	3.62%	-21.00%	-13.83%	-94.07%
Cairn Energy PLC	-47.27%	-46.88%	-158.92%	-60.31%	-29.63%
Centamin plc	-8.35%	7.56%	4.16%	-6.60%	11.52%
Connect Group PLC	4.06%	12.81%	4.87%	1.25%	-32.33%
easyJet Plc	26.19%	4.04%	5.65%	-1.27%	0.81%
EnQuest PLC	-6.63%	86.56%	92.67%	11.78%	440.00%
Evraz Plc	-40.23%	-12.74%	-281.03%	12.27%	-49.29%
Fresnillo PLC	-11.79%	-10.50%	-7.73%	-32.97%	-36.82%
Hochschild Mining plc	-5.40%	-3.16%	-95.77%	-8.57%	-269.23%
Informa plc	1.15%	2.55%	-0.29%	1.11%	4.39%
International Consolidated Airlines Group	79.67%	-220.60%	-14.07%	53.74%	-1.04%
Investec plc	-11.21%	28.32%	-8.61%	-0.24%	-6.94%
London Stock Exchange Group plc	17.10%	6.98%	8.81%	8.95%	2.40%
NEX Group plc	1.48%	4.71%	2.83%	4.32%	3.47%
Nostrum Oil & Gas PLC	-20.74%	-757.45%	-19.02%	-378.21%	-126.75%
Pearson plc	2.92%	1.35%	-2.19%	0.76%	1.56%
Petropavlovsk PLC	-24.44%	51.70%	-19.41%	114.29%	-135.47%
Premier Oil plc	-11.74%	-0.17%	6.17%	-523.41%	2.61%
RELX PLC	-46.24%	0.18%	1.07%	-0.50%	-0.04%
Royal Dutch Shell plc	16.68%	-1.49%	4.24%	-8.61%	-4.14%
Royal Mail plc	-30.59%	27.57%	-9.29%	6.02%	8.31%
TP ICAP plc	7.88%	-10.40%	3.00%	-0.76%	2.14%
Tullow Oil plc	-5.36%	-14.19%	514.20%	-4.88%	-20.15%
Vedanta Resources plc	-18.48%	-4.34%	-3.32%	-27.14%	-2800.00%
Wizz Air Holdings Plc	-	11.99%	-1.14%	-4.68%	-4.90%
BP Plc	-3.65%	-11.16%	-20.87%	6.97%	2.04%
Hunting Plc	-40.17%	-244.88%	-9.06%	-17.61%	41.05%
Lamprell Plc	3.10%	-2.50%	-89.08%	-288.78%	-10.17%
John Wood Group Plc	-2.70%	-14.96%	-11.27%	-52.22%	-58.55%

6b. Summary of Good and Bad times using Net Income Surprise – High Discretion Industry

Industry (Bloomberg categorisation)	Net Income Surprise (%)				
High Discretion Industry	Year 1	Year 2	Year 3	Year 4	Year 5
AstraZeneca PLC	-3.03%	4.25%	6.91%	-7.04%	-3.14%
AVEVA Plc	3.57%	1.06%	-4.34%	-0.93%	64.39%
Chemring Group Plc	0.37%	3.44%	-2.56%	-5.49%	15.44%
Cineworld Group plc	18.60%	11.29%	-5.27%	-19.67%	-1.30%
Consort Medical plc	2.96%	6.01%	11.07%	10.80%	0.32%
Dechra Pharmaceuticals plc	0.44%	-5.08%	0.30%	15.03%	2.32%
Essentra plc	0.19%	-0.30%	0.35%	-13.80%	2.23%
Dialight plc	-0.83%	67.65%	-6.33%	-5.00%	0.00%
Genus plc	1.14%	8.45%	7.79%	15.57%	9.52%
GlaxoSmithKline plc	0.44%	1.63%	-0.98%	1.58%	-0.02%
Hikma Pharmaceuticals	6.25%	12.24%	3.73%	-6.15%	13.45%
Indivior PLC	5.58%	3.14%	-10.21%	4.07%	7.59%
ITV plc	8.47%	3.11%	-16.63%	2.80%	-9.23%
Meggit Plc	2.33%	10.37%	4.80%	1.68%	2.27%
Microfocus Int'l Plc	6.99%	6.59%	-1.94%	5.44%	29.48%
Mitie Group plc	11.10%	0.89%	-0.24%	0.92%	0.68%
Oxford BioMedica plc	-33.80%	-1.16%	-10.00%	-14.47%	-6.47%
Playtech plc	20.92%	0.07%	10.82%	4.27%	-5.97%
Porvair plc	-	2.94%	8.33%	-	1.01%
QinetiQ Group Plc	-0.64%	-15.21%	7.15%	7.77%	7.80%
Renishaw Plc	21.50%	7.88%	12.36%	20.23%	9.75%
Rotork plc	1.84%	0.96%	2.36%	3.82%	2.73%
Shire plc	-0.42%	1.52%	8.61%	-5.57%	-1.28%
Smith & Nephew plc	-1.66%	3.48%	8.23%	3.69%	-1.79%
Smiths Group Plc	4.76%	0.58%	4.87%	-2.27%	2.19%
Spectris plc	4.19%	5.29%	1.16%	1.72%	0.44%
Spirent Communications Plc	3.76%	58.47%	-3.39%	4.85%	0.58%
The Sage Group Plc	16.44%	0.71%	3.42%	1.26%	-0.81%
TT Electronics plc	-6.82%	-0.71%	2.60%	4.27%	5.22%
Vectura Group plc	14.80%	-	15.40%	-18.40%	281.40%

7. Detailed Results and Analysis

Structure of Results and Analysis – Measures for DICTION, LIWC, and Readability Measures

In the course of testing the hypotheses for this study, the CEO letters in annual reports (hereafter, the annual reports or AR) and CEO contributions in analysts' discussions (hereafter, analysts' discussions or AD) of sample companies were analysed for linguistic markers highlighted at the hypotheses development stage. As noted in the methodology chapter, annual reports are informational, print, and decontextualised, while analysts' discussions are oral, narrative with an audience, contextualised, and transcribed. A total of sixty (60) companies were tested in line with the criteria set for their selection. Accordingly, Table 10.1 (in Appendix 10a) shows the number of companies with annual reports covering the pre-defined accounting periods, while Table 10.2 (in Appendix 10b) shows the number of companies with analysts' discussions in line with the relevant periods. Specifically, forty-three (43) of the sample companies had annual reports and analysts' discussions covering the periods between 2011 and 2015, while 17 companies had same disclosure reports covering the periods between 2014 and 2018. In view of this, the 60 sample companies were divided equally between two industry classifications of high discretion industry and low discretion industry. Consequently, 30 companies were classified as belonging to the low discretion industry while the other 30 companies were classified as belonging to the high discretion industry. For additional clarity, Table 5.5 shows the industry composition of both the low and high discretion industries.

In this study, the annual reports and analysts' discussions of these companies were analysed using text-analysis software DICTION 7.0 using the five Master Variables of COMMONALITY, CERTAINTY, ACTIVITY, REALISM, and OPTIMISM. These variables were analysed at the macro-level of analysis with the purpose of determining if they showed the predicted statistically significant differences between the low and high discretion industry levels of classification. Furthermore, additional analysis at the micro-level was conducted. This was done in order to understand whether the component elements of each Master Variable showed further statistically significant differences between low and high discretion industries. In addition, the scores of each industry were compared with standardised DICTION scores (mean and standard deviation) using the z-scores computed for each industry, to understand the deviation of each industry's scores from all the standardised scores of all the variables at the macro and micro levels of analysis.

Other accompanying analyses were conducted such as how aggressive or conservative these industries are with respect to their financial communications. Furthermore, additional analysis was conducted using Language Inquiry and Word Count (LIWC) to triangulate the language features of this text analysis

software with those of DICTION 7.0. This was conducted for the purpose of triangulating and gaining internal validity for the results generated using the five Master Variables of DICTION 7.0, and to determine the language features that provide results in line with predictions of this study. The eleven (11) primary measures of the language categories tested using LIWC, as shown in Table 4.1, are Tone, First-Person Singular Pronoun, First-Person Plural Pronoun, Positive Emotion, Negative Emotion, Certainty, Achievement, Risk, Past Focus, Present Focus, and Motion.

In addition, computations applying the Flesch Reading Ease (hereafter, Readability Score) and Flesch-Kincaid Readability Grades (hereafter, Readability Grade) were conducted, to determine the respective readability of the annual reports and analysts' discussions of these industries, and their implications with respect to financial communications. In order to critically assess statistical significance for the results observed, a non-parametric statistical tool known as Independent-Samples Kruskal-Wallis Test was conducted to differentiate between the two industries, using appropriate statistical tests. Furthermore, Cohen's *d* measure of effect size was conducted to understand how different the differences are between the *p*-values of the variables tested for both industries. The rationale for this is to understand the degree to which this study could overlay the set of data for low discretion industry with those of the high discretion industry. If the value of Cohen's *d* is zero (0), then there is a perfect match between the datasets of low and high discretion industries. In other words, a value of zero (0) means that the two datasets are not different at all.

As the value of Cohen's *d* increases, so does the indication of the difference between the datasets of the low and high discretion industries. Conventionally, a relatively well-agreed measurement scale has emerged for the interpretation of the Cohen's *d* (Cohen, 1988). Thus, a *d*-value below 0.2 is considered a small difference (about 85% overlay of data), and values between 0.2 and 0.5 are considered a moderate difference (an overlay of about 67% of the data). Any *d*-value above 0.5 is considered a large difference; a *d*-value of 1.0 has a data overlay of about 45% and a *d*-value of 2.0 has data overlay of about 19% (McNamara, Graesser, McCarthy, & Cai, 2014). Accordingly, the results and analysis of the disclosures of these industries with respect to their annual reports and analysts' discussions are shown in sections in line with the order of stated hypotheses. The results are presented in tables with explanation of the results.

Table 5.74 in appendix 11 shows the descriptive statistics of each industry group's scores on the five DICTION Master Variables with respect to their annual reports and analysts' disclosures covered in the relevant period. It shows the maximum, minimum, mean, median, and standard deviation scores of the financial communication documents of each industry. The maximum and minimum scores reported in

Table 5.74 are not the standardised DICTION scores for each Master Variable but the calculated scores derived from applying DICTION on each disclosure document. Results in Table 5.75 in appendix 11 show the descriptive statistics of the calculated scores derived from applying DICTION on each disclosure document against the standardised DICTION scores for each Master Variable. Similarly, Tables 5.74 and 5.75 show the Flesch Readability Scores and Grades of the two industries' annual reports and analysts' discussions using Microsoft Windows-based computational tool.

Results reported in Table 5.38 in appendix 8 show the non-parametric statistically significant difference between the annual reports and analysts' discussions of low and high discretion industries. In differentiating between the annual reports of these industries, the results show that the coefficients of COMMONALITY, CERTAINTY, ACTIVITY, and REALISM are statistically significant (p-value < 0.01; p-value < 0.01; p-values < 0.01; p-value < 0.05, respectively). The result for OPTIMISM was in the direction of the prediction although it did not reach a level of significance. Accordingly, Hypotheses 1(a), 2(a), 3(a), and 4(a) are supported by these results. They were as predicted from the deductive reasoning and theoretical arguments. Similarly, in differentiating between the analysts' discussions of these industries, the results show that the coefficients of COMMONALITY and REALISM are statistically significant (p = 0.05 and 0.046, respectively), with the coefficient of OPTIMISM being in the direction predicted and approaching significance (p = 0.071). The result for ACTIVITY was again in the direction predicted, although it did not reach a level of significance. Accordingly, Hypotheses 1(a), 4(a), and 5(a) are supported by these results.

7.2.1. COMMONALITY

It can be seen in Table 5.38 that with respect to the COMMONALITY Master Variable, the significance test (p-value = 0.000, d = 0.39) shows that there is a statistically significant difference between the annual reports of low and high discretion industries. Furthermore, this result shows that the COMMONALITY level in the annual reports of organisations in a low discretion industry is statistically significantly higher than the COMMONALITY level observed for organisations in a high discretion industry, with the former having a mean COMMONALITY score of **49.60** (SD = 1.67) while the mean value for the latter stands at **48.85** (SD = 2.13)**.** This result supports Hypothesis 1(a). Although the z-scores of the two industry groups are within the normal range, nonetheless, the result suggests that the content of the CEO letters of organisations in the low discretion industry is indicative of language that conveys institutional regularities and/or substantive agreement on core values, behavioural interactions among industry participants that result in industry behaviour, and terms that describe the attitudinal similarities among the organisations within the low discretion industry. Consequently, the organisations within the low discretion industry are

more likely to communicate with "language highlighting the agreed-upon values", interaction and cooperation (Hart & Carroll, 2015, p. 10) within their industry category (*z* = 0.01*)*, while "rejecting idiosyncratic modes of engagement (p. 10). In contrast, this is not so for organisations within the high discretion industry (*z* = - 0.27*)*. For the high discretion industry, the result shows that the content of CEO letters of the organisations within this industry category is more likely to be indicative of language that conveys an individual behaviour that seeks to differ from the established industry norm. In view of this, such behaviour advances organisational isolation (as opposed to industry engagement), the rejection of industry conventions (instead of shared common values), and the maximisation of individual organisation choice (Patelli & Pedrini, 2015).

Similarly, the results in Table 5.38 show the non-parametric statistically significant difference between the analysts' discussions of low and high discretion industries. In differentiating between the analysts' discussions of these industries, the results show that the coefficient of COMMONALITY is statistically significant (*p* = 0.05, *d* = 0.05), with mean COMMONALITY values of **48.33** (*SD* = 2.12, *z* = - 0.46) and **48.22** (*SD* = 2.46, *z* = - 0.50) for the low and high discretion industries, respectively. Accordingly, Hypothesis 1(a) also is supported by this result. The interpretation of the impact of this result in financial communications is the same as the one discussed with respect to CEO letters in annual reports. It is noteworthy that the establishment of mutual understanding and cooperation with target audience is the foundational basis of COMMONALITY. The results suggest that the CEOs of companies in the low discretion industry are more likely to use both annual reports and analysts' discussions to underline shared common values with their target audience. They seek engagement to shareholders and analysts for the purpose of creating a sense of community and advancing commitment toward common industry goals.

In contrast, CEOs of companies in the high discretion industry are more prone to seek to reject social conventions while stressing their individual identity over industry norms. Prior studies emphasise that a deviation from shared common values is an indication of neuroticism (Brown & Treviño; 2006), which subsequently leads to unethical practices such as deception (Bligh & Hess, 2007; Patelli & Pedrini, 2015). According to Marsh (2013), seeking to establish mutual understanding, rapport, or engagement is a core value of ethical leadership. The leaders of organisations that emphasise the need for ethical practices invest efforts towards building relationships founded on continuous engagement with stakeholders (Marsh, 2013). In the same vein, ethical leaders consider the implications of their decisions and actions on their target audience (Reed, Vidaver-Cohen, & Colwell, 2011), as well as establishing themselves as "builders of community" and better stewards of shareholder resources (Patelli & Pedrini, 2015, p. 8; Spears, 1995).

7.2.2. CERTAINTY

With respect to the CERTAINTY Master Variable, the level of significance (p = 0.000, d = 0.34) shows that there is a statistically significant difference between the annual reports of low and high discretion industries. Furthermore, this result shows that the CERTAINTY level in the annual reports of organisations in a high discretion industry is statistically significantly higher than the CERTAINTY level observed for organisations in a low discretion industry, with the former having a mean CERTAINTY score **48.73** (*SD* = 3.73, *z* = - 0.28) while the mean value for the latter stands at **47.39** (*SD* = 4.17, *z* = - 0.81)**.** This result supports Hypothesis 2(a). Although the *z*-scores of the two industry groups are within the normal range, nonetheless, the result suggests that the content of CEO letters of organisations in the high discretion industry is more likely to be indicative of language that conveys "resoluteness, inflexibility, completeness and a tendency to speak ex cathedra" (Hart & Carroll, 2015, p.6). Furthermore, the language of CERTAINTY in the CEO letters (as contained in the annual reports) of organisations in the high discretion industry is more prone to focus on financial communications that stresses precision, unwillingness to compromise, having a sense of assurance through approval and persuasion, and avoidance of hesitation in the expected or predicted performances of the organisations within the industry. The use of this language in the CEO letters conveys tenacity and insistence on the attainment of target performance, while reducing any signal of ambivalence in their communications to the shareholders. This study posits that the CEOs of companies in the high discretion industry are more likely to violate the legitimacy principle of discourse ethics by using language of inflexibility, completeness, and assurance in an environment that is not as complete, inflexible, and mature as those in the low discretion industry.

In contrast, the result for the low discretion industry suggests that the CEO letters of organisations within this industry are more likely to use language that expresses a lesser level of certainty, which could signal the unwillingness or inability of the CEOs to commit to the verbalisation being made. In view of this, the language of such CEOs could underline statements of inexactness, restrained possibility, mystery, and confusion. According to prior study, "…aggressive accounting practices are reflected in resolute language that indicates traits of authoritative and transactional leadership" (Patelli & Pedrini, 2015, p. 10). Due to the higher likelihood of inflexibility in the annual reports of CEOs in the high discretion industry and a focus on self-interest, the result emphasises that the CEOs of companies within this industry are more prone to set a tone at the top that could advance towards unethical accounting practices. Similarly, Sama and Shoaf (2008) argue that transactional leaders are more likely to engage in unethical behaviours due to their primary focus on transactions and profitability.

In line with the findings of Patelli & Pedrini (2015), the "resoluteness of the language used in CEO letters as captured by CERTAINTY could indicate poor ethical leadership" (p. 7). Furthermore, the perspective from discourse ethics establishes that CERTAINTY in communication is a signal of a language that lacks legitimacy relative to the external context (Forester, 1980; Yuthas et al., 2002). Nevertheless, the application of the legitimacy principle is not universal, as it must be a function of the specific context under consideration. Patelli and Pedrini (2013) discuss the appropriateness of the legitimacy principle in the context of the worldwide economic downturn of 2008 and 2009. They suggest that it seems inappropriate to use language that conveys resoluteness and a sense of certainty in a context shaped by high financial instability. As such, a flexible language seems more legitimate in uncertain environments, in order to seek stakeholder understanding rather than approval (Yuthas et al., 2002). In view of this, it seems appropriate for CEOs of organisations in the low discretion industry to communicate to their shareholders using more uncertain terms owing to many factors that affect their ability to deliver above-average market returns, one of which is attributable to the low growth potential experienced in their industry.

In addition to the results observed for the annual reports, the results in Table 5.38 show the statistically significant difference between the analysts' discussions of low and high discretion industries. In differentiating between the analysts' discussions of these industries, the results show that the coefficient of CERTAINTY is approaching significance ($p = 0.054$, $d = 0.18$), with mean CERTAINTY values of **39.62** ($SD = 7.39$, $z = -3.88$) and **38.28** ($SD = 7.85$, $z = -4.41$) for the low and high discretion industries, respectively. This result is contrary to that predicted and does not provide empirical support for Hypothesis 2(a). Although, the result is approaching a statistically significant difference between the two industry groups, it is an inverse of Hypothesis 2(a), as the mean values show that there is a higher level of CERTAINTY in the analysts' discussions of companies in the low discretion industry than in the high discretion industry. This suggests that companies in the low discretion industry are more likely to use words in their analysts' discussions that indicate resoluteness, inflexibility, completeness, and assurance in the attainment of expected or predicted organisational performance results within their industry group than those of companies in the high discretion industry.

This finding suggests that the CEOs of companies in the low discretion industry are more likely to apply this communication style due to the peculiarity of both their industry and the target audience – specialist analysts. In view of this, this study posits that with a known and persistent low growth rate in a low discretion industry environment with accompanying high regulatory environment, managed profitability and known business model, the CEOs of companies in the low discretion industry are more likely to communicate with analysts using language that emphasises inflexibility and assurance in attaining the known and expected level of performance for companies operating in a mature environment. The CEO

could do this by communicating to expert analysts their authoritative leadership that is unwilling to compromise, with a sense of completeness and assurance, as opposed to the CEOs of companies operating in a high discretion environment with flexible business model. Hence, the findings of this study emphasise that the use of words in analysts' discussions that convey CERTAINTY by CEOs in the low discretion industry is in line with the legitimacy principle of discourse ethics in an environment with already-expected or known low levels of profitability and growth.

7.2.3. ACTIVITY

With respect to the ACTIVITY Master Variable, the statistically significant (p = 0.002, d = 0.31) shows that there is a statistically significant difference between the annual reports of low and high discretion industries. Furthermore, this result shows that the ACTIVITY level in the annual reports of organisations in a high discretion industry is statistically significantly higher than the ACTIVITY level observed for organisations in a low discretion industry, with the former having a mean ACTIVITY score of **49.90** (*SD* = 2.01, z = - 0.28) while the mean value for the latter stands at **49.25** (*SD* = 2.13, z = - 0.43)**.** This result supports Hypothesis 3(a). Although the z-scores of the two industry groups are within the normal range, nonetheless, the result suggests that the language used in the CEO letters of organisations in the high discretion industry is more likely than an organisation in the low discretion industry to be characterised by terms that convey movement, change, the implementation of ideas and the avoidance of inertia. In the context of this study, such language embraces industry competition, forceful action, personal triumph, the expression of task-completion, and the avoidance of neutrality and inactivity. In view of this, the CEOs of companies in a high discretion industry are potentially more likely to place emphasis on their accomplishments by conveying narcissistic self-confidence. Specifically, it suggests that these CEOs are more prone to use their letters to shareholders to communicate overconfidence in their professional and uncompromising competence to deliver positive performance results and to implement strategic change.

Prior studies show that there is a relationship between ACTIVITY and leadership features of heroism (Badaracco, 2001), transformational change (Brown & Treviño, 2006), and self-confidence (Bénabou & Tirole, 2002). Specifically, Brown and Treviño (2006) explain that there is a tendency for leaders who advance transformational change to be engaged in unethical practices, particularly when they are driven by self-confidence. Although there is a positive impact of self-confidence on organisational performance and practices, yet, it is self-defeating when it advances towards overconfidence (Bénabou & Tirole, 2002). Schrand and Zechman (2012) highlight that there is a strong correlation between overconfidence of CEOs and financial restatements. Supported by literature on ethical leadership, overconfidence leads to the search for attention by engaging bold decisions, that would otherwise, be considered as unfeasible by

most people (Kets de Vries, 2003). In addition, Chen (2010) shows that accounting frauds are more likely to be committed by overconfident leaders. This overconfidence is likely to undermine the fundamental credibility and quality of financial reporting (Patelli & Pedrini, 2015). The standpoint of this study is that the promise of the delivery of overly high performances by industries with high level of discretion can be understood through their potential aggressive financial communications.

In contrast, the result for the low discretion industry are more muted and shows that the CEO letters of organisations within this industry are more likely to use language that conveys neutrality, lesser level of activity, and the acceptance of inertness, which suggests the potential unwillingness or inability of the CEOs to display overconfidence, be forceful, and with less emphasis on their accomplishments. It shows that the CEOs of companies in the low discretion industry are more likely to use this language to communicate their potential commitment to status-quo, the unwillingness or inability to drive movement, organisational or performance change, and the implementation of ideas (McClelland et al., 2010). Prior study shows that ethical leaders are less likely to be driven by heroic representations of their actions and decisions (Badaracco, 2001). Notwithstanding, they ensure that their organisations undertake change in a patient, careful, and incremental way. Hence, this study emphasises that the CEOs of organisations in the low discretion industry understand the dynamics of their industry with respect to growth prospects, and are more likely to drive organisational performance in a patient, careful, incremental, and ethical way. With respect to the result observed for analysts' discussions, whilst in the direction predicted it did not reach a level of statistical significance between the ACTIVITY level in the analysts' discussions of low and high discretion industries.

7.2.4. REALISM

With respect to the REALISM Master Variable, the test shows that there is a statistically significant difference (p = 0.031, d = 0.30) between the annual reports of low and high discretion industries. Furthermore, this result shows that the REALISM level in the annual reports of organisations in a low discretion industry is statistically significantly higher than the REALISM level observed for organisations in a high discretion industry, with the former having a mean REALISM score of **53.88** (SD = 2.47, z = 1.39) while the mean value for the latter stands at **53.10** (SD = 2.78, z = 1.15)**.** This result supports Hypothesis 4(a). Interestingly, the z-scores of the two industry groups are above the normal range, meaning the CEO letters in the annual reports of the two industry groups are not characterised by complex language. Nonetheless, the result indicates that the content of the CEO letters of organisations in the low discretion industry is more likely to be characterised by language that conveys more tangible, immediate, recognisable matters that affect the shareholders' everyday lives.

With the discussion at the hypotheses development phase, REALISM is a measure of the complexity of language in a textual information, "…it is an inverse measure of the complexity of the language" (Patelli and Pedrini, 2015, p. 11). REALISM increases with a frequent use of terms that are concrete and familiar, while it reduces with the use of words that are complex, with long sentences, and uncommon terminology (Hart & Carroll, 2015; Patelli & Pedrini, 2015). The REALISM score of any textual information can inform two things: a lower value indicates higher lexical complexity, while a higher value indicates lower lexical complexity (Patelli & Pedrini, 2015). As such, when the REALISM level is low, it creates readability problems for the target audience as it deviates from what is tangible, immediate, or recognisable to them. In contrast, a higher REALISM level ensures that the target audience is familiar with the language used in describing a subject matter.

In the context of this study, a lower level of REALISM signifies complexity of the language used by CEOs in communicating with shareholders, while a higher value facilitates readability and makes the CEO letters readable and understandable. As the REALISM score of the low discretion industry is statistically significantly higher than the score of the high discretion industry, it suggests that the CEO letters of companies in the low discretion industry are more likely to be easily read and understood than those disclosed by companies in the high discretion industry. While the REALISM scores for both industry groups are significantly higher values than the DICTION mean (49.36) for REALISM, this could be attributable to difference in time, place, and regulation that may not be captured by DICTION. Nonetheless, this does not detract from the results as they are primarily comparing high and low industry groups and not to DICTION.

Patelli and Pedrini (2015) note that when complex lexicons are used in CEO letters to shareholders, it is a significant predictor of potential aggressive financial reporting. Similarly, Merkl-Davies and Brennan (2007) posit that the 'ease of reading' of a text is an area that is susceptible to rhetorical manipulation by using impression management tactics. Furthermore, Li (2008) emphasises that top management can use corporate narratives to manipulate and deceive investors when complex language is used in structuring those narratives. This is usually the case when they need to divert the attention of shareholders from unfavourable performance results (Courtis, 1986, 1998; Lehavy et al. 2011; Li, 2008; Patelli & Pedrini, 2015). Therefore, familiar and concrete language in CEO letters as highlighted by the REALISM variable indicate faithful representation of performance results, while the use of complex lexicons in corporate narratives is a violation of the principle of comprehensibility in discourse ethics (Forester, 1980).

To facilitate the mutual understanding of CEOs and the shareholders, the content of the CEO letters should be comprehensible and transparent (Patelli & Pedrini, 2015), a lack of which is a signal of potential

ethical lapses with accompanying consequences for the financial reporting function (Schaubroeck et al. 2012). With respect to analysts' discussions, the result is in line with the explanation for annual reports. It shows there is a statistically significant difference (p = 0.046) between the REALISM scores of the analysts' discussions of low and high discretion industries, with the former having a mean REALISM score of **57.56** (SD = 2.80, z = 2.52) while the mean value for the latter stands at **57.24** (SD = 2.76, z = 2.42)**.** This result supports Hypothesis 4(a). As explained for annual reports, the result shows that the CEOs of companies in the high discretion industry are more likely to use more complex language when discussing their performance results with analysts, while their counterparts in the low discretion industry are more prone to use more tangible, familiar, and concrete language. This study posits that with the level of knowledge, expertise, and experience of analysts that cover the performance results of companies, it is most likely for the CEOs' scheme of using complex language to be unsuccessful, while trying to manipulate the understanding of the analysts with respect to performance results.

7.2.5. OPTIMISM

With respect to the OPTIMISM Master Variable, the result (p = 0.286) shows that whilst there is no statistically significant difference between the annual reports of low and high discretion industries, the result is in the direction predicted. However, between the analysts' discussions of low and high discretion industries the difference is approaching significance (p = 0.071, d = 0.07). Furthermore, this result shows that the OPTIMISM level in the analysts' discussions of organisations in a high discretion industry is higher than the OPTIMISM level observed for organisations in a low discretion industry, with the former having a mean OPTIMISM score of **54.85** (SD = 5.67, z = 1.88), while the mean value for the latter stands at **54.43** (SD = 5.90, z = 1.74)**.** This result supports Hypothesis 5(a). Accordingly, the result indicates that the financial communications of CEOs of organisations in the high discretion industry have more potential to convey words that are used to endorse some person, group, concept or event, or highlighting their positive entailments, than the words used by their counterparts in the low discretion industry. OPTIMISM increases when emphasis is placed on positive terms that are used to convey a sense of praise and satisfaction. On the other hand, it decreases with the use of words that express hardships (Hart & Carroll, 2015). In view of this, Hooghiemstra (2000) suggests that the use of optimistic tone in corporate communications is a form of impression management.

According to Patelli & Pedrini (2015), the distortion of financial reports towards depicting a more favourable financial situation is within the scope of aggressive financial reporting. This agrees with the view of Clatworthy and Jones (2003) that for impression management to be achieved using corporate narratives, top management will communicate using optimistic tone that tends to obfuscate failures and

emphasises successes. Similarly, Loughran and McDonald (2011) find a significant correlation between optimistic tone and material weaknesses of financial statements, however, this was found in the context of annual reports. Furthermore, the framework of Yuthas et al. (2002) shows that the fundamental elements of truth and sincerity in accounting narratives become jeopardised with aggressive financial reporting that stems from an optimistic tone, which could be a potential signal of unethical practices. Nonetheless, the need for a context-based approach for assessing the optimistic tone is essential to the understanding of the sincerity of corporate narratives during periods of general failure in the macro-economy. Patelli and Pedrini (2013) conclude that during the economic crisis of 2008-2009, it was expected for CEO letters to be dominated by optimistic tone, to create an assurance of firm survival in an uncertain situation. This, they conclude, is in congruence with interim and future financial performance. Hence, the findings of this study on OPTIMISM support the views of prior studies on this element of text analysis.

7.2.6 Flesch Reading Ease and Flesch-Kincaid Readability Grade

As explained in the methodology chapter, these index scores (shown in Tables 3.2 and 3.3) measure the ease-of-reading textual information, using average length of a sentence (a proxy used for the number of words in a sentence) and the average number of syllables per word in a sentence. The index scores are of two types – the Flesch Reading Ease and Flesh-Kincaid Readability Grade. Accordingly, Table 5.38 in appendix 8 shows the Flesch Reading Ease (hereafter, readability score) and Flesch-Kincaid Readability Grade (hereafter, readability grade) of the annual reports and analysts' discussions of both low and high discretion industries. With respect to the annual reports, the readability scores show a non-parametric statistically significant difference (p = 0.000, d = 0.44) between the readability scores of the annual reports of low and high discretion industries. In addition, the mean readability scores of the low and high discretion industries are **30.92** (*SD* = 7.99) and **27.44** (*SD* = 7.81), respectively. Accordingly, the results mean that it is easier to read and understand annual reports published by companies in the low discretion industry than those published by companies in the high discretion industry. This result aligns with the stated Hypothesis 7(a).

However, the readability scores observed for both industries' annual reports are well below **40.0**, a signal that both industries potentially make it difficult for their shareholders to read and understand the content of CEO letters published in annual reports. Furthermore, the result observed for the readability grades show that there is a statistical difference approaching significance (p = *0.059*, d = 0.29) between the readability grades of annual reports of low and high discretion industries, while their mean grades are **14.62** (*SD* = 1.97) and **15.15** (*SD* = 1.62), respectively. This suggests that a lower level of education is

required to read and understand the CEO letters of companies in the low discretion industry, while a higher level of education is required to comprehend those published by companies in the high discretion industry. This result is in the direction of the stated Hypothesis 7(b).

With respect to the analysts' discussions, the readability scores [mean values (Low = **58.54**; High = **58.12**)] and readability grades [mean values (Low = **9.49**; High = **9.65**)] of both industries are in the direction predicted in Hypotheses 7 (a & b), although they did not reach any level of significance. However, the readability scores of the analysts' discussions across the industries are very high, compared with those observed for CEO letters in annual reports. Despite the lack of statistical significant difference, the mean readability scores show that the analysts' discussions of companies in the low discretion industry (mean value = **58.54,** *SD* = 6.84**)** are easier to read and understand compared to those in the high discretion industry (mean value = **58.12,** *SD* = 6.71**)**. In addition, and as expected, the readability grade of the analysts' discussions is lower than readability grade of CEO letters in the annual reports. Accordingly, this study posits that the nature of an audience is a critical factor when the leadership of a company tries to disclose financial communications that are difficult to understand. The audience in earnings conference calls are expert analysts, hence, this limits the possibility of presenting 'not easy-to-read' communications as they potentially would to the target audience of annual reports – the shareholders.

As explained in the methodology chapter on the genre of text, the results in Table 5.7 show that the readability score of the analysts' discussions (Mean = **58.54**, SD = **6.84**) of companies in the low discretion industry is statistically significantly higher (p = 0.000, d = 3.71) than those of the annual reports (Mean = **30.92**, SD = **7.99**) disclosed within the same industry category. This is in line with Hypothesis 8(a). Similarly, the readability grade of the annual reports of companies (Mean = **14.62**, SD = **1.97**) in the low discretion industry is statistically significantly higher (p = 0.000, d = 2.92) than those of the analysts' discussions (Mean = **9.49**, SD = **1.51**) disclosed within the same industry. This is in line with Hypothesis 8(b). On the other hand, the readability score of the analysts' discussions (Mean = **58.12**, SD = **6.71**) of companies in the high discretion industry is statistically significantly higher (p = 0.000, d = 4.21) than those of the annual reports (Mean = **27.44**, SD = **7.81**) disclosed within the same industry. This is in line with Hypothesis 8(c). Similarly, the readability grade of the annual reports of companies (Mean = **15.15**, SD = **1.62**) in the high discretion industry is statistically significantly higher (p = 0.000, d = 3.61) than those of the analysts' discussions (Mean = **9.65**, SD = **1.42**) disclosed within the same industry. This is in line with Hypothesis 8(d).

Furthermore, the results in Table 5.7 show the readability scores and readability grades across the two document types - an aggregated readability score of annual reports of high and low discretion industries, in comparison with the aggregated score of analysts' discussions of the two industries. The rationale for this approach was to understand the form of financial communication that is more susceptible to potential manipulation with respect to the readability and comprehensibility of corporate financial communication. The results show that there is a statistically significant difference ($p = 0.000$, $d = 3.91$) between the aggregated readability scores of CEO letters in annual reports of the two industries in comparison with the combined readability scores of the transcripts from analysts' discussions of the two industries combined together. This means that it is easier to read and understand transcripts from analysts' discussions from either of the industries than the CEO letters to shareholders in annual reports of the industry groups combined together. This is in line with Hypothesis 8(e). Interestingly, the aggregated mean readability scores of analysts' discussions of the industry groups stand at **58.35** (*SD* = 6.78**)** a very high score compared with the readability score of **29.18** (*SD* = 8.08**)** of the annual reports for both industries.

In addition, the maximum and minimum readability scores (shown in Table 5.76 in Appendix 11) of the industry groups' analysts' discussions are **80.00** and **36.60**, respectively. On the other hand, the maximum and minimum readability scores of both industry groups' annual reports are **57.00** and **9.50**, respectively. These results align with the prediction that it is more difficult to read and understand CEO letters to shareholders in annual reports than narratives made to analysts in earnings conference calls. This study posits that there is the potential for the leadership of a company to make the content of CEO letters to shareholders more difficult to read and understand than the information it presents to experienced and expert analysts within the same period. Also, it posits that since earnings conference calls are conducted as a dialogue between two or more people, emphasis will be placed on the clarity of information provided for at least two reasons.

First, the more difficult it is to read and understand information provided by top management during analysts' discussions, the more it creates the room to be questioned back and forth to provide further information to clarify stated points. A situation that creates opportunity for analysts to dig deeper into the affairs of a company - a possibility CEOs would potentially want to inhibit. Second, there would be no need to make the information difficult to understand when members of top management are dealing with those that have expert understanding of information provided to them. On the other hand, annual reports are presented as a monologue with limited opportunity to question certain elements of the CEO letters, which may appear difficult to read and understand. Hence, this study posits that top management will potentially target annual reports when it needs to obfuscate vital information from the users of this

document type than it probably would when communicating with expert analysts, a task that can be aided by public relations specialists (Abrahamson & Hambrick, 1997).

With respect to the aggregated readability grade of the industry groups' forms of corporative narratives, the result shows there is a statistically significant difference (p = 0.000, d = 3.21) between the readability grades of the industry groups' annual reports and analysts' discussions. The rationale for this approach was to test which of the document types would require a higher education level in order to be able to read and understand their contents. Furthermore, the results show that the aggregated mean readability grades of analysts' discussions for the industry groups is **9.57** (*SD* = 1.47**)**, while that of annual reports is **14.89** (*SD* = 1.82**)**. In addition, the maximum and minimum readability grades of the industry groups' analysts' discussions are **13.5** and **4.8**, respectively. On the other hand, the maximum and minimum readability grades of the industry groups' annual reports are **20.6** and **6.6**, respectively. This result aligns with Hypothesis 8(f). Accordingly, it indicates that a higher level of education would be required to read and understand the contents of annual reports than those of analysts' discussions. This further supports the reasoning that annual reports have potential to be targeted when top management intends to make their corporate narratives less transparent.

7.3 Micro-level of analysis using the elements of each Master Variable

Results reported in Tables 4.09 to 4.13 show the non-parametric statistically significant differences between the annual reports and analysts' discussions of low and high discretion industries, using the sub-features of each of the five Master Variables of DICTION. In total, there are 35 sub-features. Some of the sub-features increase the scores of each Master Variable, while there are those that reduce the scores of each Master Variable. The results observed are explained below for the sub-features of each Master Variable. Throughout this section, the notation "zL" is used to denote the z-score of the low discretion industry, while "zH" is used to denote the z-score of the high discretion industry. These scores are only included for the sub-feature scores that either reached a level of statistical significance at 5% and 1% or those approaching a level of significance. Furthermore, the notation "*zLg"* is used to denote the z-score of the low discretion industry during good times, while "*zLb"* is used to denote the z-score during bad times within the same industry. On the other hand, the notation "*zHg"* is used to denote the z-score of the high discretion industry during good times, while "*zHb"* is used to denote the z-score during bad times within the same industry.

7.3.1. COMMONALITY

For the COMMONALITY Master Variable, three sub-features increase the COMMONALITY score, while three other sub-features decrease the same, as shown in Table 5.8. With respect to the sub-features that

increase the COMMONALITY score, the coefficients of Centrality (p = 0.003, d = 0.24, zL = 0.49, zH = 0.19) and Rapport (p = 0.031, d = 0.09, zL = - 0.38, zH = - 0.44) show statistically significant difference between the annual reports of low and high discretion industries. The results align with the stated Hypothesis 1(e) that these sub-features scores will be significantly higher for companies in the low discretion industry than for those in the high discretion industry. With respect to the sub-feature 'Cooperation', the result is contrary to the stated hypothesis and was approaching a level of significance (p = 0.096, d = 0.19). The result shows that this sub-feature – 'Cooperation' - will be higher for the annual reports of companies in the high discretion industry than for those in the low discretion industry. With reference to the DICTION definition of this sub-feature, this suggests that the language used in the annual reports in the high discretion industry will show more group behavioural interactions among the companies in this industry, when compared to the language of 'Cooperation' among companies in the low discretion industry. Specifically, the language of 'Cooperation' measures terms that imply work relations, informal associations, intimate and neutral interactions, job-related tasks, personal involvement, and self-denial (Hart & Carrol, 2015, p. 10).

Although 'Cooperation' is a critical component of COMMONALITY, yet the core sub-feature that measures the substantive agreement on core values, legitimacy, congruence, predictability, as well as institutional regularities is the sub-feature 'Centrality' (p = 0.003, d = 0.24, zL = 0.49, zH = 0.19). Similarly, the sub-feature 'Rapport' (p = 0.031, d = 0.09, zL = - 0.38, zH = - 0.44) measures attitudinal similarities among groups of people such as affinity, assent, deference, and id entity (Hart & Carrol, 2015, p. 10). In the context of this study, the language of 'Cooperation' as defined by DICTION does not carry as much weight as the language of 'Centrality' and 'Rapport' in the measure of COMMONALITY towards distinguishing between the annual reports of high and low discretion industries. With respect to the analysts' discussions, the results show both 'Centrality' (p = 0.002, d = 0.15, zL = - 0.37, zH = - 0.48) and 'Cooperation' (p = 0.03, d = 0.21, zL = - 0.26, zH = - 0.38) scores are statistically significant. This is in line with Hypothesis 1(e). This indicates that both sub-features are statistically significantly higher to increase the COMMONALITY score of companies in the low discretion industry than for those in the high discretion industry.

With respect to the sub-features that decrease the COMMONALITY score, the coefficient of 'Diversity' shows statistical significant difference (p = 0.006, d = 0.36, zL = - 0.03, zH = 0.29) between the annual reports of low and high discretion industries. Furthermore, the result shows that the mean 'Diversity' scores of the annual reports of low and high discretion industries are **1.89** (SD = 1.38**)** and **2.48** (SD = 1.85**)**, respectively. It indicates this score will be higher for companies in the high discretion industry than for those in the low discretion industry, towards reducing the COMMONALITY score. This aligns with

Hypothesis 1(i). Although the mean values of 'Exclusion' and 'Liberation' (**3.15** and **0.89,** respectively) are higher for the annual reports of companies in the high discretion industry, yet, they do not show statistically significant difference from those in the low discretion industry (**2.61** and **0.75,** respectively**)**.

With respect to analysts' discussions, the result shows that the score for 'Diversity' is statistically significant (p = 0.04, d = 0.10, zL = 0.17, zH = 0.27) between the analysts' discussions of low and high discretion industries. While the score for 'Diversity' aligns with Hypothesis 1(i) in concluding that this score will be statistically significantly higher for the analysts' discussions of companies in the high discretion industry, the inverse was observed for the sub-feature 'Liberation' (although at a significance level of p = 0.065, d = 0.11). The score for 'Liberation' is higher for companies in the low discretion industry [mean score (Low=**0.76;** High=**0.64**)]. With reference to DICTION on the definition of 'Liberation', it suggests that, during analysts' discussions, companies in the low discretion industry will be keener to use language that connote the maximisation of individual choice as well as the rejection of industry conventions, in comparison with the companies in the high discretion industry. This study posits that although this result was approaching significance (p = 0.065, d = 0.11), it is not as significant as the result observed for 'Diversity' (p = 0.04, d = 0.10, zL = 0.17, zH = 0.27), to cause significant change in the overall difference in COMMONALITY scores of the two industries' analysts' discussions.

7.3.2. CERTAINTY

For the CERTAINTY Master Variable, four sub-features increase the CERTAINTY score, while four other sub-features decrease the same, as shown in Table 5.9. With respect to the sub-features that increase the CERTAINTY score, the coefficient of 'Insistence' shows a statistically significant difference (p = 0.01, d = 0.26, zL = 0.18, zH = 0.41) between the annual reports of low and high discretion industries. This result aligns with Hypothesis 2(e). This indicates that the 'Insistence' score of the annual reports of the high discretion industry is higher than for the low discretion industry. On the other hand, the statistically insignificant scores observed for 'Tenacity', 'Levelling Terms', and 'Collectives', all move in an inverse direction against the stated hypothesis. In other words, they show higher scores for the annual reports of companies in the low discretion than for those in the high discretion industry.

For the analysts' discussions, the results show that 'Levelling Terms' and 'Collectives' both reflect a level of statistically significant difference (p = 0.065, d = 0.03, zL = 0.30, zH = 0.35; p = 0.025, d = 0.23, zL = - 0.81, zH = - 0.94, respectively). Although the former aligns with the stated hypothesis and was approaching significance in the direction of the prediction, the latter moves in the opposite direction. It indicates that companies in the low discretion industry have a likelihood to use more 'Collectives' than those in the high discretion industry. With reference to DICTION definition, it connotes that CEOs of

companies in the low discretion industry use more singular nouns, connoting plurality that function to decrease specificity than those in the high discretion industry. With such definition, this study posits that this sub-feature (Collectives) is unlikely to affect the overall CERTAINTY score (which deals with resoluteness, inflexibility, and completeness), if a larger sample is tested. As such, with a larger sample, the inverse score may not produce a higher level of CERTAINY in the analysts' discussions of companies in the low discretion industry than those in the high discretion industry.

With respect to the sub-features that decrease the CERTAINTY score, the coefficients of 'Ambivalence' and 'Self-Reference' show statistically significant differences (p = 0.005, d = 0.32, zL = - 1.37, zH = -1.50; p = 0.000, d = 0.30, zL = - 0.55, zH = - 0.66, respectively) between the annual reports of low and high discretion industries, although the coefficient of 'Numerical Terms' (p = 0.052, d = 0.21) was approaching significance and in line with the prediction. The results align with Hypothesis 2(i). Accordingly, it indicates that the scores will be higher for CEO letters of companies in the low discretion industry than for those in the high discretion industry, towards reducing the CERTAINTY score. For the analysts' discussions, the results show that 'Numerical Terms' and 'Self-Reference' both show statistically significant differences (p = 0.000, d = 0.36, zL = 0.79, zH = 0.44; p = 0.033, d = 0.17, zL = 0.18, zH = 0.28, respectively). Although the former aligns with Hypothesis 2(i), the latter moves in an opposite direction. It suggests that the CEOs of companies in the high discretion industry will make more reference to themselves during discussions with analysts than those in the low discretion industries. This is particularly useful in understanding blame shifting when CEOs report unfavourable performance results. By cross-referencing this to the result observed for 'Collectives', it indicates that during discussions with analysts, CEOs of companies in the high discretion industry are more likely to attribute the performance of their companies to themselves. On the other hand, those in the low discretion industry are more likely to share the responsibility of such performance results with other members of management. These results are very useful when considering the transition from first-person singular pronoun to first-person plural pronoun during periods of unfavourable performance results, as well as when making deceptive corporate narratives.

7.3.3. ACTIVITY

For the ACTIVITY Master Variable, four sub-features increase the ACTIVITY score, while three other sub-features decrease the same, as shown in Table 5.10. With respect to the sub-features that increase the ACTIVITY score, the coefficients of 'Aggression', 'Accomplishment', and 'Motion' all show statistically significant differences (p = 0.023, d = 0.21, zL = - 0.42, zH = - 0. 53; p = 0.024, d = 0.09, zL = 2.15, zH = 2.25; p = 0.045, d = 0.27, zL = - 0.15, zH = 0.10, respectively) between the annual reports of low and high discretion industries. With the exception of 'Aggression', the results align with Hypothesis 3(e). The

results show that the sub-features 'Accomplishment' and 'Motion' are significantly higher for the annual reports of companies in the high discretion industry than for those in the low discretion industry. With the inverse movement of the result observed for 'Aggression', this particularly has significant implication for the standpoint of this study that companies in the high discretion industry have the potential to communicate using aggressive language when compared with the conservative language used in the low discretion industry.

Accordingly, this result observed for 'Aggression' in annual reports suggests that companies in the low discretion industry have the potential to communicate using language signifying competition and forceful action, industry domination, company triumph over their competitors, and resistance against external forces, when compared with those in the high discretion industry. This does not align with Hypothesis 3(e). With respect to analysts' discussions, the results show that that the coefficients of 'Aggression', 'Accomplishment', and 'Communication' show statistically significant differences (p = 0.006, d = 0.24, zL = - 0.81, zH = - 0.71; p = 0.000, d = 0.29, zL = 0.11, zH = 0.33; p = 0.042, d = 0.25, zL = 0.33, zH = 0.08, respectively). The sub-variable 'Motion' (p = 0.086, d =0.10, zL = 0.79, zH = 0.91) reflects a result in the direction predicted and was approaching significance. With the exception of 'Communication', all other sub-feature scores align with the stated Hypothesis 3(e). Specifically, the result observed for 'Aggression' aligns with the standpoint of this study that the financial communications (analysts' discussions) of companies in the high discretion industry is published using aggressive language when compared with the conservativeness in the corporate narratives published in the low discretion industry. With the inverse result observed for 'Communication', this indicates there is a greater use of terms that emphasise face-to-face interactions between the company's executive and its stakeholders for companies in the low discretion industry. Although this inverse movement is likely to affect the ACTIVITY score in general, yet, it does not undermine the potential aggressive reporting of companies in the high discretion industry during analysts' discussions.

With respect to the sub-features that decrease the ACTIVITY score, the coefficients of 'Passivity' and 'Embellishment' show there is some significant statistical difference (p = 0.059, d = 0.18, zL = 1.06, zH = 0.85; p = 0.002, d = 0.27, zL = 0.67, zH = 0.18, respectively) between the annual reports of low and high discretion industries. Accordingly, it suggests that the CEOs of companies in the low discretion industry have the potential to communicate more in passive language when compared to those in the high discretion industry. This is in line with stated Hypothesis 3(i). For discussions with analysts, the coefficients of 'Cognition' and 'Passivity' show statistically significant difference (p = 0.003, d = 0.15, zL = 0.47, zH = 0.63; p = 0.008, d = 0.17, zL = - 0.13, zH = - 0.32, respectively). While the result of the latter aligns with stated hypothesis as well as with the observation for annual reports, the result of the former

is an inverse of the stated hypothesis. It indicates that the CEOs of companies in the high discretion industry are more likely to communicate with analysts using a higher level of rationalistic, calculative, and intuitional language, when compared to those in the low discretion industry. This does not align with the stated hypothesis.

7.3.4. REALISM

For the REALISM Master Variable, six sub-features increase the REALISM score, while two other sub-features decrease the same, as shown in Table 5.11. With respect to the sub-features that increase the REALISM score, the coefficient of 'Concreteness' shows statistically significant difference (p = 0.003, d = 0.34, zL = - 0.54, zH = - 0.74) between the annual reports of low and high discretion industries. This aligns with the Hypothesis 4(e). The result for 'Present Concern' (p = 0.074, d = 0.08, zL = - 0.82, zH = - 0.74) was approaching significance and moves in the opposite direction. It indicates that companies in the high discretion category demonstrate significantly higher emphasis on matters of 'Present Concern' than those in the low discretion industry. This does not align with stated hypothesis. Nonetheless, the result observed for 'Concreteness' aligns with the standpoint that companies in the low discretion industry are more likely to communicate with language that is tangible, material, and recognisable by their shareholders, as opposed to those used in the high discretion industry. With respect to CEO discussions with analysts, the coefficient of 'Temporal Terms' (p = 0.070, d = 0.13, zL = 0.26, zH = 0.13) was approaching significance and moves in the direction of that predicted to differentiate between the analysts' discussions of low and high discretion industries. Furthermore, it suggests that the CEOs of companies in the low discretion industry have the potential to communicate more with language that signals concern for concrete and practical matters, when compared to those in the high discretion industry. This is similar with the observation for 'Concreteness' and it also aligns with stated Hypothesis 4(e).

With respect to sub-features that decrease the REALISM score, the coefficients of 'Past Concern' and 'Complexity' show statistical significant difference (p = 0.005, d = 0.30, zL = - 0.57, zH = - 0.34; p = 0.000, d = 0.52, zL = 1.53, zH = 1.97, respectively) between the annual reports of the two industries. Furthermore, the results observed support the prediction that companies in the high discretion industry are more likely to communicate with reference to past concerns, while they also have the potential to use the annual reports as a tool to make qualitative information on performance results complex for shareholders to read and understand. The results suggest that it is more complex to read and understand corporate narratives of companies in the high discretion industry than those in the low discretion industry. These results align with Hypothesis 4(i) as well as being similar to results of the Flesch Readability Index

in Tables 4.06 and 4.07. For discussions with analysts, the coefficient of 'Past Concern' show statistical significance (p = 0.005, d = 0.22, zL = - 0.03, zH = 0.16) between the analysts' discussions of low and high discretion industries. This is in line with stated hypothesis as well as the results observed for annual reports.

7.3.5. OPTIMISM

For the OPTIMISM Master Variable, three sub-features increase the OPTIMISM score, while three other sub-features decrease the same, as shown in Table 5.12. With respect to the sub-features that increase the REALISM score, the coefficient of 'Inspiration' shows statistically significant difference (p = 0.030, d =0.13, zL = 0.27, zH = 0.41) between the annual reports of low and high discretion industries. It suggests that the CEOs of companies in the high discretion industry are more likely to demonstrate a significantly higher level of language of 'Inspiration' in delivering target performance results. This is in line with Hypothesis 5(e). For analysts' discussions, the coefficients of 'Praise' and 'Inspiration' show significant statistical differences (p = 0.000, d = 0.24, zL = 0.10, zH = 0.34; p = 0.019, d =0.08, zL = - 0.72, zH = - 0.67, respectively) between the low and high discretion industries. This is in line with stated hypothesis and similar to the observation for annual reports.

With respect to the sub-features that decrease the OPTIMISM score, the coefficients of 'Blame' and 'Denial' show statistically significant differences (p = 0.010, d = 0.16, zL = - 0.73, zH = - 0.78; p = 0.000, d = 0.32, zL = 1.10, zH = - 1.47, respectively) between the annual reports of low and high discretion industries. It shows that the CEOs of companies in the low discretion industry are more likely to use significantly higher level of language that connote unfortunate circumstances, unplanned vicissitudes, negative contractions, and negative function words in their annual reports to shareholders, as opposed to the language used by CEOs in the high discretion industry. This aligns with Hypothesis 5(i). For discussions with analysts, no sub-feature produced a statistically significant difference between the two industries.

7.4 Comparison between the language features of DICTION 7.0 and LIWC 2015

In order to gain internal validity for the tests conducted using the five Master Variables of DICTION, another text analysis software was adopted known as Language Inquiry and Word Count 2015 (hereafter, LIWC). The rationale for this approach was to compare the language features represented across the five Master Variables of DICTION 7.0 (hereafter, DICTION) with a set of select language categories in LIWC 2015. The selection of the language categories from LIWC was based on their similarity with those of DICTION. Accordingly, a set of eleven (11) language categories were selected from LIWC with the aim of matching them with similar features in DICTION. Similar to the tests conducted using DICTION, the

comparison was conducted across the two document types – CEO letters in annual reports and transcripts of CEO oral statements from analysts' discussions. Specifically, the language categories selected from LIWC are measures for 'Tone', 'First Person Singular Pronoun', 'First Person Plural Pronoun', 'Positive Emotion', 'Negative Emotion', 'Certainty', 'Achievement', 'Risk', 'Past Focus', 'Present Focus', and 'Motion'. The results observed are explained below.

The results in Table 5.77 in appendix 11 show the descriptive statistics of the language categories tested using LIWC. In addition, Table 5.45 in appendix 8 complements the results in Table 5.77 by comparing the calculated scores obtained from testing the documents with standardised LIWC scores. For the purpose of this study, the Grand Mean and Standard Deviation figures were adopted as representative of the standardised scores of LIWC. Furthermore, Table 5.13 adds to the analysis by presenting the results of the non-parametric test of statistically significant difference between the financial communications of the low and high discretion industries. Lastly, Table 5.13 reports the values of Cohen's *d*, with the aim of understanding the effect sizes of the datasets used in testing for the differences between the financial communications of the low and high discretion industries across the eleven (11) language features of LIWC. The results in Table 5.13 inform the discussions hereafter.

The results in Table 5.13 shows there is a statistically significant difference (p = 0.008, d = 0.34, zL = 1.07, zH = 1.26) between the level of 'Tone' - a measure of the positivity or negativity of words (Henry (2008), contained in the annual reports of companies in the high discretion industry in comparison to those in the low discretion industry. Specifically, it shows that while the mean value of 'Tone' for companies in the high discretion industry stands at **83.56** (*SD* = 11.64), the mean value of 'Tone' for companies in the low discretion industry stands at **79.22** (*SD* = 13.96). This is line with Hypothesis 6(a). Similarly, the results observed for the 'Tone' level in the analysts' discussions show that there is a statistically significant difference (p = 0.000, d = 0.72, zL = 0.68, zH = 1.03) between the 'Tone' levels of CEO statements of companies in the low and high discretion industries. While the former has a mean 'Tone' value of **69.96** (*SD* = 12.16), the latter has a mean 'Tone' value of **78.19** (*SD* = 10.67). This is in accord with the results observed for the difference in Tone levels in the annual reports of the companies in the low and high discretion industries. Accordingly, the results observed for both annual reports and analysts' discussions suggest that the CEOs of companies in the high discretion industry have the potential to build the element of 'Tone' in their financial communications with both shareholders and analysts more than the CEOs of companies in the low discretion industry.

Henry (2008) introduced a novel approach in the measurement of 'Tone' in written text in terms of the positivity and negativity of words used by the author of a text. In her study, it was emphasised that the

level of 'Tone' increases as the proportion of positive words exceed negative words in a given text. The standpoint of this study is that there is the potential for aggressive reporting in the financial communications of companies in the high discretion industry. In the same vein, with a potentially high level of certainty demonstrated by top managers in such industry towards the delivery of predicted high performance results, there is the likelihood for careful selection of positive words that would underlie their ability to and insistence on delivering such expectations. For a higher level of 'Tone' to be maintained, there is the potential for the CEOs of companies in a high discretion industry to carefully select positive words while avoiding communicating with negative words that would otherwise undermine their ability to deliver high performance expectations. Contrastingly, for companies in the low discretion industry, this study posits that there is the potential for their CEOs to communicate using less aggressive, or rather conservative language, due to the already known lower growth prospects for companies in the low discretion industry. Accordingly, there is the likelihood for the CEOs of companies in the low discretion industry to either conservatively use positive words or use more negative words to emphasise their performance results in their financial communications, thereby resulting in a significantly lower level of 'Tone' in comparison to those observed for companies in the high discretion industry.

In addition, Table 5.13 shows the results for tests conducted for 'First Person Singular Pronoun' and 'First Person Plural Pronoun'. By triangulating these two LIWC categories with two sub-features of DICTION Master Variable 'CERTAINTY', they are by definition similar to the sub-features 'Self-reference' and 'Collectives', respectively. For 'First Person Singular Pronoun', the results show that there is statistically significant difference (p = 0.000, d = 0.39, zL = - 1.88, zH = - 1.94) in the use of self-reference between the annual reports of the low and high discretion industries. Furthermore, the results show that the low discretion industry has a mean value of **0.36** (SD = 0.45), while the mean value for the high discretion industry is **0.21** (SD = 0.31). The result indicates that the CEOs of companies in the low discretion industry are more likely to use 'First Person Singular Pronouns' in their annual reports than those in the high discretion industry. For the results observed using the sub-feature 'Self-reference' in DICTION, the result also shows that there is statistically significant difference (p = 0.000, d = 0.30, zL = - 0.55, zH = - 0.66) between the use of 'Self-reference' in the annual reports of low and high discretion industries. For the DICTION sub-feature, the low discretion industry has a mean value of **2.47** (SD = 3.19), while the high discretion industry has a mean value of **1.61** (SD = 2.56). This aligns with the prediction made and in line with the results observed for the DICTION sub-feature.

Prior research on deceptive narratives have argued that analysing for the use of self-reference can provide indication of deceptive communication and blame shifting (Churyk et al. 2009; Keila and Skillicorn, 2005; Zhou, Burgoon, Nunamaker, & Twitchell, 2004). Specifically, Bournois and Point (2006)

contend that it is an important tactical move when there is a sudden transition from the use of the first-person singular pronoun to the first-person plural pronoun. In the same vein, studies of blame shifting have suggested that during the course of unfavourable events, there is likely to be an increase in the use of first-person plural pronoun. An individual is "less likely to blame themselves [in such a situation], so they speak about their accomplice[s] in addition to themselves" (Morrow, 2008, p. 20). On the other hand, Craig et al (2013) found a distinctive result for the use of self-reference in the confession letter of the Chairman of the Indian multi-national company, Satyam. They found that in the years prior to the revelation of the fraud there had been a sudden increase in the use of first-person plural pronouns from 44% (2002-2003) to 82% (2003-2004); 89% (2004-2005); 94% (2005-2006); 98% (2006-2007); and to 90% in 2007-2008 (the period before the revelation of fraud).

Interestingly, the percentage of first-person plural pronoun in the confession letter of the Chairman decreased significantly to 9%, meaning that the percentage of first-person singular pronoun increased to 91%, a trend that does not move in line with the blame shifting theory. Craig et al. (2013) conclude that this unusual transition signalled the Chairman's tactic in exonerating members of his family –who were members of the top management of the company, from the purported fraud, thereby taking the blame for the entire top management. It is noteworthy that in the years when the company reported favourable financial performance, the Chairman used more of first-person singular pronoun (as evidenced in the 56% first-person singular pronoun in 2002-2003), thereby attributing the performance of the company to himself. The results from Craig et al. (2013) suggest that it is possible for a single member of top management to acclaim both the favourable performance of a company to themselves or take sole responsibility for deceptive communication. This, again, is contrary to the blame shifting tactic in the transition from the first-person singular pronoun to the first-person plural pronoun.

In the context of this study, the results observed for the difference in the absolute level of use of 'Self-reference' between the annual reports of low and high discretion industry is not of prime interest. Hence, the significantly high level of 'Self-reference' in the annual reports of companies in the low discretion industry does not absolutely imply that there is a significantly high level of 'Collectives' in the annual reports of companies in the high discretion industry. In the same vein, a significantly lower level of 'Self-reference' in the annual reports of companies in the high discretion industry does not imply the CEOs of the companies in this industry will take collective responsibility when faced with either bad performances or allegations of fraudulent reporting. This study emphasises the position of Craig et al. (2013) that rather than make any meaning in the absolute level of use in first person pronouns, what should be of prime interest is 'the transition from a preponderance of singular first-person pronouns to plural first-person pronouns and vice versa…' (p. 10).

With respect to the use of 'First Person Singular Pronoun' in analysts' discussions, the result is in the direction of prediction, although it did not reach a level of significance (p = 0.245, d =0.14). Similarly, the result observed for the use of 'First Person Plural Pronoun' is in line with prediction (p = 0.287, d = 0.14), it does not show any statistically significant difference between the annual reports of low and high discretion industries. On the other hand, although the result for the use of 'First Person Plural Pronoun' in analysts' discussions is contrary to that predicted, it does not show a statistically significant difference between the two industries.

Returning to Table 5.13 and the results for the use of 'Positive Emotion' and 'Negative Emotion' in the financial communications of low and high discretion industries. These two language categories of LIWC are triangulated with two sub-features 'Satisfaction' and 'Denial', respectively. The two sub-features are from the DICTION Master Variable 'OPTIMISM' and in line with the LIWC definitions for 'Positive Emotion' and 'Negative Emotion', respectively. For 'Positive Emotion', the result is line with that predicted although it did not reach a level of significance (p = 0.324, d = 0.08) to differentiate between the annual reports of low and high discretion industries. With respect to analysts' discussions, the result shows that there is a statistically significant difference (p = 0.000, d = 0.65, zL = - 0.42, zH = - 0.15) between the level of 'Positive Emotion' in the analysts' discussions of companies in the low and high discretion industries. In addition, the mean value of 'Positive Emotion' in the analysts' discussions of the low discretion industry is **2.98** (SD = 0.70), while that of the high discretion industry is **3.43** (SD = 0.71). This is in line with the prediction.

The results observed for both annual reports and analysts' discussions suggest that the CEOs of companies in the high discretion industry have the potential to use more 'Positive Emotion' words in their financial communications than those in the low discretion industry. In comparison to the results observed for the sub-feature 'Satisfaction', the result moves in the same direction with that of 'Positive Emotion', although it did not reach a level of significance to distinguish between low and high discretion industries, with respect to both annual reports and analysts' discussions (p = 0.826; p = 0.190, respectively). Specifically, the mean value of 'Satisfaction' in the annual reports of low discretion industry is **3.32** (SD = 3.03), while that of the high discretion industry is **3.36** (SD = 2.82). With respect to analysts' discussions, the mean values of 'Satisfaction' are **6.09** (SD = 6.88) and **6.23** (SD = 6.70) for the low and high discretion industries, respectively.

On the other hand, the result for 'Negative Emotion' shows that there is statistically significant difference (p = 0.000, d = 0.52, zL = - 1.06, zH = - 1.25) between the level of 'Negative Emotion' in the annual reports of low and high discretion industries. In addition, the mean value of 'Negative Emotion' in the

annual reports of the low discretion industry is **0.69** (*SD* = 0.37), while that of the high discretion industry is **0.48** (*SD* = 0.43). This is in line with the prediction. Furthermore, the result shows that there is a statistically significant difference (p = 0.000, d =0.36, zL = - 1.18, zH = - 1.27) between the level of 'Negative Emotion' in the analysts' discussions of the low and high discretion industries. In addition, the mean value of 'Negative Emotion' in the analysts' discussions of the low discretion industry is **0.55** (*SD* = 0.24), while that of the high discretion industry is **0.46** (*SD* = 0.24). This, again, is in line with the prediction.

Accordingly, the results observed for both annual reports and analysts' discussions suggest that CEOs of companies in the low discretion industry have the potential to use more 'Negative Emotion' words in their financial communications than those in the high discretion industry. In comparison to the results observed for the sub-feature 'Denial', the result shows that there is a statistically significant difference (p = 0.000, d =0.32, zL = - 1.48, zH = - 1.28) between the level of 'Denial' in the annual reports of the low and high discretion industries. Specifically, the mean value of the level of 'Denial' in the annual reports of companies in the low discretion industry is **1.10** (*SD* = 1.16), while that of the high discretion industry is **0.74** (*SD* = 1.05). This result moves in the same direction as that of 'Negative Emotion'. With respect to analysts' discussions, the result observed for 'Denial' is in line with prediction, although it did not reach a level of significance (p = 0.725, d = 0.00), with mean values of **5.75** (*SD* = 3.47) and **5.73** (*SD* = 3.60) for the low and high discretion industries, respectively.

Prior research on the use of positive and negative emotion words suggest that individuals often experience emotional reaction when they try to engage in deceptive communication (Zuckerman, DePaulo, & Rosenthal, 1981). Similarly, Craig et al. (2013) contend that it is possible for such emotional reaction to be manifest in written communications, a view held in Larcker and Zakolyukina (2012). They concluded that in the course of presenting company performance in quarterly earnings conference calls, deceptive CEOs used more extreme positive emotion words and fewer extreme negative emotion words (Larcker & Zakolyukina, 2012). Furthermore, they emphasised that deceptive CEOs are more likely to feel very emotional – at least inwardly, while showing signs of guilt and fear of exposure. Similarly, Craig et al. (2013) argue that as the level of deception grows in an organisation's performance results, the CEO letters to shareholders would be used to underline the feeling of guilt and desire to protect the blossoming reputation of the CEO. This desire will be manifest in the choice of extreme positive words and extreme negative words.

In the context of this study, the prime focus is to assess and differentiate between the use of emotion words between the low and high discretion industries. In view of this, this study posits that the pressure

on companies in the high discretion industry has the potential to create an environment where the CEOs are expected to deliver high performance results, specifically due to high growth expectations for companies in this industry grouping. Accordingly, there is the likelihood for the CEOs of companies in the high discretion industry to use all forms of impression management tactics and possible aggressive financial reporting measures to signal their ability to deliver market expectations. Indeed, as the scale and impact of analysts' expectations and market pressures increase, the CEOs of companies in the high discretion industry have the potential to use more extreme positive emotion words to underline their emotional responses to market expectations. On the other hand, due to the already-known lower growth prospects for companies in the low discretion industry, this study argues that the level of pressure on companies in the low discretion industry to attain higher-than-normal performance results is not as high when compared to the pressure on companies in a high discretion industry. Accordingly, this has the potential to create a situation where the CEOs of companies in the low discretion industry use more extreme negative emotion words to underline their emotional responses to the dynamics of their market environment in comparison to companies in the high discretion industry.

Furthermore, Table 5.13 shows the LIWC results of 'Certainty' in the financial communications of low and high discretion industries. This language category of LIWC was triangulated with the CERTAINTY Master Variable of DICTION, due to their similarity in definition. The results show that for both the annual reports and analysts' discussions, there is no statistically significant difference between the level of 'Certainty' in the financial communications of low and high discretion industries. For the annual reports, the result observed is contrary to the prediction although it did not reach a level of significance (p = 0.275, d = 0.13). On the other hand, for the analysts' discussions, the result is in the direction of the prediction, although it did not reach a level of significance (p = 0.229, d = 0.13). For the CERTAINTY Master Variable of DICTION, the result shows that there is statistically significant difference (p = 0.000, d = 0.34) between the level of CERTAINTY in the annual reports of low and high discretion industries.

Furthermore, the results show that the mean value of CERTAINTY in the annual reports of companies in the low discretion industry is **47.39 (***SD* = 4.17), while the mean value for companies in the high discretion industry is **48.73** (*SD* = 3.73). This is line with the prediction that companies in the high discretion industry will have a significantly higher level of CERTAINTY than those in the low discretion industry. With respect to analysts' discussions, the result was approaching a level of significance (p = 0.054, d = 0.18, zL = -0.01, zH = 0.06), but contrary to the prediction. Combined together, the results for the annual reports using DICTION's CERTAINTY and the analysts' discussions using LIWC's 'Certainty' are in line with the prediction, with the result of DICTION showing statistically significant difference between the low and high discretion industries, while that of LIWC was approaching a level of significance.

In addition, Table 5.13 shows the result for the language of 'Achievement' in the financial communications of low and high discretion industries. This language category of LIWC was triangulated with the sub-feature 'Accomplishment' of the ACTIVITY Master Variable of DICTION, due to their similarity in definition. The results show that for both the annual reports (p = 0.000, d = 0.46, zL = 2.83, zH = 3.41) and analysts' discussions (p = 0.000, d = 0.47, zL = 1.06, zH = 1.46), there are statistically significant differences in the language of 'Achievement' between the low and high discretion industries. Specifically, the mean value of 'Achievement' in the annual reports of companies in the low discretion industry group is **3.62** (SD = 1.06), while that of companies in the high discretion industry group is **4.10** (SD = 1.04). With respect to analysts' discussions, the mean values of 'Achievement' for the low and high discretion industries are **2.17** (SD = 0.70) and **2.50** (SD = 0.74), respectively. These two results are as predicted that companies in the high discretion industry will significantly use more language of 'Achievement' in their financial communications than those in the low discretion industry.

Similarly, the results for the sub-feature 'Accomplishment' shows, for the annual reports, that there is statistically significant difference (p = 0.024, d = 0.09, zL = 2.15, zH = 2.25) in the language of 'Accomplishment' between the low and high discretion industries. Again, the results observed for analysts' discussions show that there is statistically significant difference (p = 0.000, d = 0.29, zL = 0.11, zH = 0.33) in the language of 'Accomplishment' between the low and high discretion industries. Specifically, the mean value of 'Accomplishment' in the annual reports of companies in the low discretion industry is **34.57** (SD = 13.40), while that of companies in the high discretion industry is **35.55** (SD = 9.13). With respect to analysts' discussions, the mean values of 'Accomplishment' for the low and high discretion industries are **15.37** (SD = 7.13) and **17.43** (SD = 6.88), respectively. These two results are as predicted that companies in the high discretion industry will significantly use more language of 'Accomplishment' in their financial communications than those in the low discretion industry.

Looking again at Table 5.13 it shows the results for the language of 'Risk' in the financial communications of low and high discretion industries. This language category of LIWC was triangulated with the sub-feature 'Ambivalence' of the CERTAINTY Master Variable of DICTION, due to their similarity in definition. For the language of 'Risk', the result shows that there is statistically significant difference (p = 0.000, d = 0.33, zL = - 0.05, zH = - 0.32) between the annual reports of low and high discretion industries. Furthermore, the results show that the mean value of 'Risk' in the annual reports of companies in the low discretion industry is **0.45** (SD = 0.29), while that of companies in the high discretion industry is **0.34** (SD = 0.34). This is in line with the prediction that companies in the low discretion industry will significantly use more language of 'Risk' in their financial communications than those in the high discretion industry.

With respect to analysts' discussions, the result is in line with the prediction although it did not reach a level of significance (p = 0.194, d = 0.06). For the sub-feature 'Ambivalence', the result shows that there is statistically significant difference (p = 0.005, d = 0.32, zL = - 1.37, zH = - 1.50) between the annual reports of the low and high discretion industries. Specifically, it shows that while the mean value of 'Ambivalence' for companies in the low discretion industry stands at **4.16** (*SD* = 2.91), the mean value of 'Ambivalence' for companies in the high discretion industry stands at **3.28** (*SD* = 2.47). This, again, is in line with prediction and with the results for the language of 'Risk' as measured by LIWC. The results observed for the language of 'Ambivalence' in analysts' discussions is contrary to the prediction, although it did not reach a level of significance.

In addition, Table 5.13 shows the results for 'Past Focus' and 'Present Focus' in the financial communications of low and high discretion industries. Due to their similarities in definitions, these two language categories of LIWC were triangulated with the sub-features 'Past Concern' and 'Present Concern', respectively, for which both are of the REALISM Master Variable of DICTION. For 'Past Focus', the result is contrary to the prediction, although it did not reach a level of significance (p = 0.658, d = 0.03) to differentiate between the annual reports of the low and high discretion industries, with respect to the language of 'Past Focus'. Specifically, the mean value of 'Past Focus' for the low discretion industry is **1.97** (*SD* = 0.56), while that of the high discretion industry is **1.95** (*SD* = 0.78). With respect to the analysts' discussions, the result is in line with the prediction, although it did not reach a level of significance (p = 0.332, d = 0.03) to differentiate between the analysts' discussions of the low and high discretion industries, with respect to the language of 'Past Focus'. Specifically, the mean value of 'Past Focus' for the low discretion industry is **2.80** (*SD* = 0.85), while that of the high discretion industry is **2.82** (*SD* = 0.65). For the sub-feature 'Past Concern', the result shows that there is statistically significant difference (p = 0.005, d = 0.30, zL = - 0.57, zH = - 0.34) between the language of 'Past Concern' in the annual reports of the low and high discretion industries. Furthermore, it shows that the mean value of 'Past Concern' in the annual reports of the low discretion industry is **2.10** (*SD* = 1.30), while that of the high discretion industry is **2.69** (*SD* = 2.45). This is in line with the prediction that the annual reports of companies in the high discretion industry will have a significantly higher level of 'Past Concern' than for those in the high discretion industry.

Similarly, the result for the analysts' discussions shows that there is statistically significant difference (p = 0.005, d = 0.22, zL = - 0.03, zH = 0.16) between the language of 'Past Concern' in the analysts' discussions of the low and high discretion industries. In addition, it shows that the mean value of 'Past Concern' in the analysts' discussions of the low discretion industry is **3.49** (*SD* = 2.12), while that of the high discretion industry is **3.99** (*SD* = 2.46). Again, this is in line with the prediction and the analysts'

discussions of companies in the high discretion industry will have a significantly higher level of 'Past Concern' than for those in the low discretion industry. With respect to the language of 'Present Focus', the result is in line with the prediction, although it did not reach a level of significance (p = 0.7, d = 0.02) to differentiate between the annual reports of companies in the low and high discretion industries. Specifically, the mean value of 'Present Focus' for the annual reports of companies in the low discretion industry is **5.21** (*SD* = 1.38), while that of the high discretion industry is **5.19** (*SD* = 1.47). With respect to analysts' discussions, the result is contrary to the prediction, although it did not reach a level of significance (p = 0.659, d = 0.02). For the sub-feature 'Present Concern', the results are contrary to the prediction for both annual reports and analysts' discussion, although neither reached a level of significance. However, the result of the annual reports was approaching significance (p = 0.074, d = 0.08, zL = - 0.82, zH = - 0.74) to differentiate between the language of 'Present Concern' in the annual reports of the low and high discretion industries.

Lastly, Table 5.13 shows the result for the language of 'Motion' in the financial communications of companies in the low and high discretion industries. This language category of LIWC (also referred to as LIWC's 'Motion') was triangulated with the sub-feature 'Motion' of the ACTIVITY Master Variable of DICTION (also referred to as DICTION's 'Motion'), based on their similarity in definition. With respect to LIWC's 'Motion', the result shows that there is statistically significant difference (p = 0.032, d = 0.28), zL = 0.66, zH = 0.88 in the language of 'Motion' between the annual reports of the low and high discretion industries. Specifically, the mean value of LIWC's 'Motion' for the annual reports of companies in the low discretion industry is **2.83** (*SD* = 0.73), while that of companies in the high discretion industry is **3.06** (*SD* = 0.89). This is in line with the prediction that there will be a higher level of the language of 'Motion' in the annual reports of companies in the high discretion industry than for those in the low discretion industry. In addition, the result also shows that there is statistically significant difference (p = 0.000, d = 0.42, zL = 0.37, zH = 0.61) in the language of 'Motion' between the analysts' discussions of the low and high discretion industries. Specifically, the mean value of 'Motion' for the analysts' discussions of companies in the low discretion is **2.53** (*SD* = 0.61), while that of companies in the high discretion industry is **2.78** (*SD* = 0.58). Again, this is in line with the prediction that there will be a higher level of the language of 'Motion' in the analysts' discussions of companies in the high discretion industry than for those in the low discretion industry.

With respect to the sub-feature 'Motion' of the ACTIVITY Master Variable of DICTION, the result shows that there is statistically significant difference (p = 0.045, d = - 0.15, zL = 0.17, zH = 0.10) in the language of 'Motion' between the annual reports of the low and high discretion industries. Specifically, the mean value of DICTION's 'Motion' for the annual reports of companies in the low discretion industry is **1.95** (*SD*

= 1.53), while that of the companies in the high discretion industry is **2.46** (*SD* = 2.17). This is in line with prediction and also aligns with the results observed for LIWC's 'Motion' in annual reports. For the analysts' discussions, the result is in line with the prediction and also aligns with the results observed for LIWC's 'Motion' in analysts' discussions, and was approaching a level of significance ($p = 0.086$, $d = 0.10$, $zL = 0.79$, $zH = 0.91$) to differentiate between the language of 'Motion' between the analysts' discussions of the low and high discretion industries.

7.5 Analysis for the 'Good and Bad' Performance Periods

In this study, additional tests were conducted to determine the language characteristics of companies in both low and high discretion industries during periods of good and bad performance results. These tests were conducted using all the five DICTION Master Variables and sub-features, Flesch Reading Ease, Flesch-Kincaid Readability Grade, and some eleven (11) LIWC language categories. This was done for the purpose of extracting the language features that help inform how the CEOs of companies in both industries engage financial communication strategies towards expressing the performance results of their companies during good and bad times. This is particularly useful for auditors, entity risk assessors, regulators, and vigilant shareholders in understanding potential financial disasters through the qualitative financial information provided by CEOs of companies.

For the purpose of differentiating between good and bad times, the Actual Net Income of the companies in both low and high discretion industries were compared with Consensus Net Income Estimates for each of the relevant periods 2011-2015 (for 43 companies) and 2014-2018 (for 17 companies). The comparison between the Actual Net Income and Consensus Net Income Estimates creates another measure known as Net Income Surprise. For the purpose of this study, this was measured as [(Actual Net Income – Consensus Net Income Estimate) ÷ Consensus Net Income Estimate]. In simple terms, the Actual Net Income is the Net Income reported by each company according to Generally Accepted Accounting Principles (GAAP) for each accounting period, while the Consensus Net Income Estimate is a prediction of Net Income made by analysts, which is expected to be earned by a company during a particular accounting period. It is noteworthy that the Net Income Surprise is a percentage measure and it shows to what degree the Actual Net Income as reported by a company deviates from the predicted Consensus Net Income Estimates made by analysts for that particular period. For the purpose of this study, a general rule was adopted for clearly differentiating between good and bad performance results using a 10% rule, which was covered at the methodology stage.

The categorisation of the performance of each of the companies for each of the periods into good and bad times is shown in Appendix 6. Across the five-year period on either side of the industry groups, a

total of seventy (70) quarterly reports align to the definition of bad financial performance for companies in the low discretion industry, while a total of thirty-five (35) quarterly reports align to the definition of bad financial performance for companies in the high discretion industry. For both industry groups, there are 150 quarterly reports on each side. Furthermore, analysis was conducted at four different levels using the five Master Variables of DICTION, the Flesch-Kincaid Readability Measures, all the sub-features of the five Master Variables of DICTION, and how some of these sub-features compare to some 11 language categories of LIWC. First, comparison was conducted on how low and high discretion industries communicate during good times. Second, how they compare in their financial communications during bad times. Third, how companies within the low discretion industry communicate during good and bad times. Lastly, how companies in the high discretion industry communicate during good and bad times. Accordingly, the results observed for the financial communications of the low and high discretion industries are explained at the Macro level of Analysis, Flesch Reading Ease and Flesch-Kincaid Readability Grade, Micro-level of Analysis, and 11 LIWC language categories, hereafter.

Table 5.78 in appendix 11 shows the descriptive statistics of each industry's scores on the five DICTION Master Variables with respect to their annual reports and analysts' discussions during good times. It shows the maximum, minimum, mean, median, and standard deviation scores of the financial communication documents of each industry when they reported good performance results, in accordance with the pre-defined measure of good times. Similarly, Table 5.78 shows the Flesch Reading Ease and Flesch-Kincaid Readability Grades of the two industry groups' annual reports and analysts' discussions. Furthermore, results reported in Table 5.46 in appendix 8 show the non-parametric statistically significant difference between the annual reports and analysts' discussions of low and high discretion industries during good times. During good times, in differentiating between the annual reports of these two industry groupings, the results show that the coefficients of COMMONALITY, CERTAINTY, ACTIVITY, and REALISM are statistically significant (p-value = 0.002, d = 0.32, zL = - 0.01, zH = - 0.25; p-value = 0.023, d =0.24, zL = - 0.55, zH = - 0.21; p-values = 0.002, d = 0.39, zL = - 0.46, zH = - 0.27; p-value = 0.033, d =0.35, zL = 1.41, zH = 1.13, respectively). The result for OPTIMISM was in the direction of the prediction although it did not reach a level of significance (p-value = 0.679, d = 0.01). Accordingly, Hypotheses 1(b), 2(b), 3(b), and 4(b) are supported by these results. They were as predicted and similar with those observed without differentiating between good and bad times.

Similarly, in differentiating between the analysts' discussions of these industries, the result for REALISM is in the direction of prediction and was approaching a level of significance (p = 0.062, d = 0.16, zL = 2.52, zH = 2.38). With respect to the Flesch Reading Ease, the results show that for both annual reports and analysts' discussions there are statistically significant differences (p-value = 0.001, d = 0.49; p-value

= 0.02, *d* =0.16, respectively) between the readability scores of the two financial communication documents of companies in the low and high discretion industries. This is in line with Hypothesis 7(c). Similarly, the results show that for both annual reports and analysts' discussions, there are statistically significant differences (*p*-value = 0.023, *d* = 0.38; *p*-value = 0.019, *d* =0.20, respectively) between the Flesch-Kincaid Readability Grades of the two financial communication documents of companies in the low and high discretion industries. Again, this is in line with Hypothesis 7(d). Accordingly, the implications of the above results are explained below.

With respect to COMMONALITY, the result shows that with a net income surprise that is positive and not significantly negatively different from the expectations of the market, the level of COMMONALITY in the annual reports of companies in the low discretion industry is statistically significantly higher (*p* = 0.002, *d* = 0.32, *zL* = - 0.01, *zH* = - 0.25) than those in the high discretion industries. This is in line with Hypothesis 1(b). During good times, the result suggests that companies in the low discretion industry are more likely to communicate using language that highlights institutional regularities, substantive agreement on core values and group product, in their annual reports than those in the high discretion industry. Accordingly, this suggests that companies in the high discretion industry may be more likely to use language that signifies deviation from commonly used accounting principles in explaining how they were able to individually attain the level of Net Income expected of them by the market. This could have the potential to create a culture of aggressively recognising income that could otherwise be reported in periods when they become earned.

For CERTAINTY, the result shows that during good times, the level of CERTAINTY in the annual reports of companies in the high discretion industry is statistically significantly higher (*p* = 0.023, *d* = 0.24, *zL* = - 0.55, *zH* = - 0.21) than those in the low discretion industry. This is in line with Hypothesis 2(b). During good times, the result suggests that companies in the high discretion industry are more likely to communicate using language that indicates resoluteness, completeness, precision, and the avoidance of hesitation, which demonstrates their ability to meet or exceed target expectations, in their annual reports than those in the low discretion industry. Accordingly, this suggests that companies in the high discretion industry have the potential to use language that signifies authoritative leadership that is unwilling to compromise, with accompanying sense of assurance, which seeks approval and prides itself on persuasion. As such, this is demonstrated through the use of tight control mechanisms that undervalues ethical behaviour in exchange for self-interest (Turner et al., 2002). Sama and Shoaf (2008) posit that as authoritative leaders focus more on transactions and profitability, they are more likely to resort to unethical behaviours. Accordingly, the result observed for the level of CERTAINTY in the annual reports of the two industries suggests that companies in the high discretion industry are potentially more likely to engage in

unethical recognition of income and unethical financial reporting when communicating how they attain the level of income expected of them by the market.

With respect to ACTIVITY, the result shows that during good times, the level of ACTIVITY in the annual reports of companies in the high discretion industry is statistically significantly higher (p = 0.002, d = 0.39, zL = - 0.46, zH = - 0.27) than those in the low discretion industry. This is in line with Hypothesis 3(b). During good times, the result suggests that companies in the high discretion industry are more likely to communicate using language that indicates competition, forceful action, and the avoidance of inertia, in their annual reports, than those in the low discretion industry. Accordingly, this suggests that companies in the high discretion industry have a higher potential to use language that emphasises overconfidence in their ability to pioneer change and deliver positive performance results. This language reveals traits of heroism (Badaracco, 2001), self-confidence (Bénabou & Tirole, 2002), and transformational change (Brown & Treviño, 2006). Specifically, Brown and Treviño note that when driven by self-confidence, leaders who seek transformational change resort to unethical behaviours. In the same vein, Badaracco (2001) argues that the pursuit of heroism is not the primary focus of ethical leaders, who would seek to establish change patiently, carefully, and incrementally. The result suggests that companies in the high discretion industry are more likely to demonstrate a higher level of aggression in their annual reports to the extent that it could reveal the potential for companies in this industry to engage in unethical practice.

With respect to REALISM, the result shows that during good times, the level of REALISM in the annual reports of companies in the low discretion industry is statistically significantly higher (p = 0.033, d = 0.35, zL = 1.41, zH = 1.13) than those in the high discretion industry. This is in line with Hypothesis 4(b). During good times, the result suggests that companies in the low discretion industry are more likely to communicate using language that seeks to identify what is recognisable to the stakeholders in their industry, as opposed to what is considered implausible or unfamiliar to them. On the other hand, the result suggests that companies in the high discretion industry are more likely to use language that are less likely to depict tangible, immediate, and recognisable matters that conform to the reality of things commonly known to their stakeholders. This is particularly facilitated through the use of complex terms, long sentences, and uncommon terminology (Patelli & Pedrini, 2015). The emphasis on REALISM reflects the level of ease of reading of corporate narratives, which, conventionally, is prone to rhetorical manipulation, based on the insight from impression management theory (Merkl-Davies & Brennan, 2007). Similarly, Li (2008) stresses that the use of complex language in corporate narratives is a strategy that has the potential to be used in deceiving investors. Hence, the result observed for REALISM in this study suggests that companies in the high discretion industry are more likely to rhetorically manipulate the content of annual reports than those in the low discretion industry.

Reflecting on the Flesch Readability Score, the results show that during good times, the readability scores for both annual reports and analysts' discussions are statistically significantly higher (p = 0.001, d = 0.49; p = 0.02, d = 0.16, respectively) for companies in the low discretion industry than for those in the high discretion industry. This is in line with Hypothesis 7(c). During good times, the result suggests that it is easier to read and understand the annual reports and analysts' discussions of companies in the low discretion industry than those in the high discretion industry. Furthermore, the results show that the Flesch-Kincaid Readability Grades for both annual reports and analysts' discussions are statistically significantly higher (p = 0.023, d = 0.38; p = 0.019, d = 0.20, respectively) for companies in the high discretion industry than for those in the low discretion industry. Again, this is in line with Hypothesis 7(d). During good times, the result suggests that a higher level of education will be required to read and understand the annual reports and analysts' discussions of companies in the high discretion industry than for those in the low discretion industry.

Table 5.79 in appendix 11 shows the descriptive statistics of each industry's scores on the five DICTION Master Variables with respect to their annual reports and analysts' discussions during bad times. It shows the maximum, minimum, mean, median, and standard deviation scores of the financial communication documents of each industry when they reported bad performance results, in accordance with the pre-defined measure of bad times. Similarly, Table 5.14 shows the Flesch Reading Ease and Flesch-Kincaid Readability Grades of the two industries' annual reports and analysts' discussions. Furthermore, results reported in Table 5.15 show the non-parametric statistically significant difference between the annual reports and analysts' discussions of low and high discretion industries during bad times. During bad times, in differentiating between the annual reports of these two industries, the results show that the coefficient of COMMONALITY is statistically significant (p-value = 0.007, d = 1.17, zL = 0.04, zH = - 0.74) in differentiating between the annual reports of companies in the low and high discretion industries. This is in line with Hypothesis 1(b). Furthermore, the result for OPTIMISM is in the direction of the prediction although it did not reach a level of significance (p-value = 0.164, d = 0.39).

Similarly, in differentiating between the analysts' discussions of these industries, the coefficient of COMMONALITY shows statistically significant difference (p-value = 0.025, d = 0.48, zL = - 0.28, zH = - 0.61) between the analysts' discussions of companies in the low and high discretion industries. Again, this is line with Hypothesis 1(b). Although the result for REALISM was approaching a level of significance (p-value = 0.06, d = 0.54, zL = 2.51, zH = 3.01), it is contrary to the prediction. With respect to Flesch Reading Ease, the result shows that for analysts' discussions, there is statistically significant difference (p-value = 0.041, d = 0.60) between the readability scores of the analysts' discussions of companies in the low and high discretion industries. However, this is contrary to the prediction. Similarly, the result for

the Readability Grade was approaching a level of significance (*p*-value = 0.065, *d* = 0.50) and contrary to the prediction. Accordingly, the implications of the above results are explained below.

With respect to COMMONALITY, the results show that with a negative net income surprise, the level of COMMONALITY in both the annual reports and analysts' discussions of companies in the low discretion industry is statistically significantly higher (*p*-value = 0.007, *d* = 1.17, *zL* = 0.04, *zH* = - 0.74; *p*-value = 0.025, *d* = 0.48, *zL* = - 0.28, *zH* = - 0.61, respectively) than those in the high discretion industry. These results are in line with Hypothesis 1(b). During bad times, the results suggest that companies in the low discretion industry have a higher potential to communicate using language that highlights institutional regularities, substantive agreement on core values and group product, in both annual reports and analysts' discussions than those in the high discretion industry. Interestingly, the effect size of the difference between the COMMONALITY level in the annual reports during bad times (*d* = 1.17) is very high compared to the effect size during good times (*d* = 0.32) between the two industry groups. This is the similar for discussions with analysts as the effect size for bad times (*d* = 0.48) is higher than during good times (*d* = 0.07).

Specifically, it shows that the annual reports and analysts' discussions of companies in the low discretion industry have a higher mean value of COMMONALITY during bad times (**49.68** and **48.81,** respectively) than in good times (**49.55** and **48.07**, respectively). In contrast, the annual reports and analysts' discussions of companies in the high discretion industry have a lower mean value of COMMONALITY during bad times (**47.56** and **47.92,** respectively) than in good times (**48.90** and **48.24**, respectively). Accordingly, this suggests that companies in the low discretion industry are more likely to use language that signifies agreement with using common accounting principles and narratives in explaining the common problems they encounter that makes it difficult to collectively attain the level of Net Income expected of them by the market, which further advances their isomorphism. On the other hand, it shows that during bad times, companies in the high discretion industry have a greater potential to be less isomorphic or with a higher likelihood to be heterogeneous, by deviating from using common accounting principles and financial narratives commonly available in their industry.

Considering the Flesch Reading Ease, the result shows that during bad times, the readability score of the analysts' discussions is statistically significantly higher (*p* = 0.041, *d* = 0.60) for companies in the high discretion industry than for those in the low discretion industry. This is contrary with Hypothesis 7(c). During bad times, the results suggest that it is easier to read and understand the analysts' discussions of companies in the high discretion industry than those in the low discretion industry. This is particularly interesting as the readability score for the analysts' discussions of companies in the high discretion

industry was lower during good times (Mean = 57.93) in comparison to bad times (Mean = 61.35). On the other hand, the readability score of the analysts' discussions of companies in the low discretion was higher during good times (Mean = 59.00) in comparison to bad times (M = 57.69). While the latter is in line with the prediction, the former is contrary to the prediction.

Accordingly, this study posits that while it is more difficult to read and understand the corporate narratives of companies in the high discretion industry in comparison to companies in the low discretion industry, this may likely have a further negative impact on the stakeholder community during bad times. Therefore, the difficulty in their narratives may need to be reduced in a way that it makes it easier for their stakeholders to understand the reasons why they are experiencing bad performance results. Furthermore, the results show that for both low and high discretion industries, it is easier to read and understand their analysts' discussions in comparison to their annual reports. While the readability scores of the analysts' discussions of both industries sit in the region of "Easily Understood" on the readability scale, those of their annual reports are in the region of "Very Difficult to Read and Understand". This aligns with the initial position that the ease or difficulty of understanding corporate narratives is a function of the genre of text and the target audience.

Table 5.80 in appendix 11 shows the descriptive statistics of the low discretion industry's scores on the five DICTION Master Variables with respect to their annual reports and analysts' discussions during good and bad times. It shows the maximum, minimum, mean, median, and standard deviation scores of the financial communication documents of the companies in the low discretion industry when they reported good and bad performance results, in accordance with the pre-defined measures of good and bad times. Similarly, Table 5.80 shows the Flesch Reading Ease and Flesch-Kincaid Readability Grades of the industry's annual reports and analysts' discussions during good and bad times. Furthermore, results reported in Table 5.16 show the non-parametric statistically significant difference between good and bad times, with respect to how companies in the low discretion industry communicate in their annual reports and analysts' discussions. In differentiating between good and bad times, the result shows that the level of COMMONALITY in the analysts' discussions of companies with bad performance results is statistically significantly higher (p-value = 0.016, d = 0.34, zLg = - 0.55, zLb = - 0.28) than those with good financial results. Specifically, it shows that companies with good performance results have a lower level of COMMONALITY (Mean = 48.07) than those with bad performance results (Mean = 48.81), within the same industry. This is in line with Hypothesis 1(c) to posit that companies in the low discretion industry will use more language of COMMONALITY when they experience bad performance results to underline a common problem and build a sense of community than when they do experience good performance results.

Furthermore, the result shows that the level of CERTAINTY in the annual reports of companies with good performance results is statistically significantly higher (*p*-value = 0.006, *d* = 0.46, *zLg* = - 0.55, *zLb* = - 1.35) than those with bad financial results. Specifically, it shows that companies with good performance results have a higher level of CERTAINTY (Mean = 48.03) than those with bad performance results (Mean = 46.01), within the same industry. Again, this is in line with Hypothesis 2(c). This is particularly significant as it shows that the *z*-score of companies with bad financial performance sit well below the normal range of CERTAINTY in their annual reports. This is useful in investigating any company that uses a high level of the language of CERTAINTY in their financial communications during bad times.

With respect to ACTIVITY, the result shows that the level of ACTIVITY in the analysts' discussions of companies with good performance results is statistically significantly higher (*p*-value = 0.002, *d* = 0.25, *zLg* = - 0.24, *zLb* = - 0.38) than those with bad financial results. Specifically, it shows that companies with good performance results have a higher level of ACTIVITY (Mean = 50.05) than those with bad performance results (Mean = 49.46), within the same industry. Again, this is in line with Hypothesis 3(c). With respect to Flesch Reading Ease, the result shows that for analysts' discussions, there is statistically significant difference (*p*-value = 0.035, *d* = 0.19) between the readability scores of the analysts' discussions of companies in the low discretion industry during good and bad times. Specifically, it shows that companies with good performance results have a higher readability score (Mean = 59.00) than those with bad performance results (Mean = 57.69), within the same industry. Again, this is in line with Hypothesis 7(e). In addition, the result for the Readability Grade on analysts' discussions was approaching a level of significance (*p*-value = 0.063, *d* = 0.17) and in line with Hypothesis 7(f). Accordingly, the implications of the above results are explained below.

With respect to COMMONALITY, the results show that the level of COMMONALITY in the analysts' discussions of companies in the low discretion industry between the good and bad times is statistically significantly different as shown above. This is in line with the prediction. Specifically, the result suggests that companies with bad performance results in the low discretion industry communicate more using language that highlights substantive agreement on group product or experience than those who experience good financial results. Accordingly, this suggests that companies experiencing bad financial results in the low discretion industry are more likely to use language that signifies agreement with using common accounting principles and narratives in explaining the common problems they encounter that makes it difficult to collectively attain the level of Net Income expected of them by the market.

With respect to CERTAINTY, the results show that the level of CERTAINTY in the annual reports of companies in the low discretion industry between the good and bad times is statistically significantly

different as shown above. This is in line with the prediction. Specifically, the result shows that companies with good performance results in the low discretion industry communicate with a higher level of CERTAINTY than those with bad financial results. It suggests that companies with good performance results communicate more using language that indicates resoluteness, completeness, precision, and the avoidance of hesitation, which demonstrates their ability to meet or exceed target expectations, in their annual reports than those with bad performance results. This study posits that the low level of CERTAINTY for companies with bad performance results complies with the principle of discourse ethics. Patelli and Pedrini (2015) posit that it is inappropriate to emphasise resoluteness and a sense of certainty during periods shaped by unfavourable economic situation. Hence, the result suggests that companies with bad performance results are more likely to use the low level of CERTAINTY to underline the uncertainty attributable to their poor results.

With respect to the Flesch Reading Ease, the result shows that the readability score of the analysts' discussions of companies with bad financial results is statistically significantly lower (p-value = 0.035, d = 0.19) than those with good financial results. This is in line with the prediction. The result suggests that it is easier to read and understand the analysts' discussions of companies with good financial results than those with bad financial results. Simply put, it implies it is more difficult to read and understand the analysts' discussions of companies when they produce bad performance results. In the same vein, prior accounting studies found that companies that experienced unfavourable financial performance results manipulated the readability of their annual reports (Courtis, 1998; Lehavy et al., 2011; Li, 2008). Specifically, prior studies stress that the use of complex language (Li, 2008; Patelli & Pedrini, 2015), long sentences and uncommon terminology (Patelli & Pedrini, 2015) in corporate narratives are strategies used by top management to manipulate investors' understanding of the performance of their organisation. Interestingly, the results show that for both good and bad times, it is easier to read and understand the analysts' discussions of companies in the low discretion industry than the annual reports published by them in the same period. Specifically, the result shows that it is easier to read and understand the analysts' discussions of companies with bad performance results than the annual reports published by them within the same period. While the readability scores of their analysts' discussions (Mean = 57.69) during bad times sit in the region of "Easily Understood" on the readability scale, the readability score of their annual reports (Mean = 30.29) is in the region of "Very Difficult to Read and Understand". Again, this aligns with the initial position that the ease or difficulty of understanding corporate narratives is a function of the genre of text and the target audience.

Table 5.81 in appendix 11 shows the descriptive statistics of the high discretion industry's scores on the five DICTION Master Variables with respect to their annual reports and analysts' discussions during good

and bad times. It shows the maximum, minimum, mean, median, and standard deviation scores of the financial communication documents of the companies in the high discretion industry when they reported good and bad performance results, in accordance with the pre-defined measures of good and bad times. Again, Table 5.81 shows the Flesch Reading Ease and Flesch-Kincaid Readability Grades of the industry's annual reports and analysts' discussions during good and bad times. Furthermore, results reported in Table 5.17 shows the non-parametric statistically significant difference between good and bad times, with respect to how companies in the high discretion industry communicate in their annual reports and analysts' discussions. In differentiating between good and bad times, the result shows that the level of CERTAINTY in the annual reports of companies with good performance results is statistically significantly higher (p-value = 0.018, d = 0.77, zHg = - 0.21, zHb = - 1.43) than those with bad performance results. Specifically, it shows that companies with good performance results have a higher level of CERTAINTY (Mean = 48.89) than those with bad performance results (Mean = 45.82), within the same industry. This is in line with Hypothesis 2(d).

Furthermore, the result shows that the level of REALISM in the analysts' discussions of companies with bad performance results is statistically significantly higher (p-value = 0.005, d = 0.68, zHg = 2.38, zHb = 3.01) than those with good performance results. Specifically, it shows that companies with bad performance results have a higher level of REALISM (Mean = 59.16) than those with good performance results (Mean = 57.13), within the same industry. This is contrary to Hypothesis 4(d). With respect to the Flesch Reading Ease, the result shows that for analysts' discussions, the result was approaching a level of significance and contrary to Hypothesis 7(g) (p-value = 0.054, d = 0.57) to differentiate between the readability scores of the analysts' discussions of companies in the high discretion industry during good and bad times. In addition, the result for the Readability Grade on analysts' discussions show that there is statistically significant difference (p-value = 0.046, d = 0.54) between the readability grades of companies in the high discretion industry during good and bad times. Specifically, it shows that companies with good performance results have a higher readability grade (Mean = 9.69) than those with bad performance results (Mean = 9.00), within the same industry. Again, this is contrary to Hypothesis 7(h). Accordingly, the implications of the above results are explained below.

Reviewing CERTAINTY, the results show that the level of CERTAINTY in the annual reports of companies in the high discretion industry between good and bad times is statistically significantly different (p-value = 0.018, d = 0.77, zHg = - 0.21, zHb = - 1.43). This is in line with the prediction. Specifically, the result suggests that companies with good performance results in the high discretion industry communicate with a higher level of CERTAINTY than those with bad performance results. It suggests that companies with good performance results communicate more using language that indicates

resoluteness, completeness, precision, and avoidance of hesitation, which demonstrates their ability to meet or exceed target expectations, in their annual reports than those with bad performance results. This study posits that the low level of CERTAINTY for companies with bad performance results complies with the principle of discourse ethics. Patelli and Pedrini (2015) posit that it is inappropriate to emphasise resoluteness and a sense of certainty during periods shaped by unfavourable economic situation. Hence, the companies with bad performance results use the low level of CERTAINTY to underline the uncertainty attributable to their poor performance.

Turning to the Flesch-Kincaid Readability Grade, the result shows that the readability grade of the analysts' discussions of companies with bad performance results is statistically significantly lower (p = 0.046, d = 0.54) in comparison to those with good performance results. This is contrary to the prediction. During bad times, the result suggests that a lower level of education is required to read and understand the analysts' discussions of companies with bad performance results than those with good performance results. This is particularly interesting as the readability score also reveals that it is easier to read and understand analysts' discussions of companies with bad performance results. This study posits that while it is more difficult to read and understand, at any time, the corporate narratives of companies in the high discretion industry, it may likely have a further negative impact on the stakeholder community during bad times. Hence, the difficulty in their narratives may need to be reduced in a way that it makes it easier to read and understand their corporate narratives during bad times much more than in good times. Furthermore, while the readability score of the annual reports during bad times sit in the region of "Very Difficult to Read and Understand" (Mean = 29.21), those of analysts' discussions sit in the region of "Easily Understood" (Mean = 61.35) on the readability scale. This aligns with the initial position that the ease or difficulty of understanding corporate narratives is a function of the genre of text and the target audience.

7.6 Analysis for the Sub-features of the Five Master Variables during Good and Bad Times

Table 5.18 shows the results for the sub-features of COMMONALITY Master Variable of DICTION with the purpose of analysing for their use in the annual reports and analysts' discussions of the low and high discretion industries. With respect to the first Master Variable – COMMONALITY, the sub-features that increase its score are 'Centrality', 'Cooperation', and 'Rapport', while those that reduce it are 'Diversity', 'Exclusion', and 'Liberation'. The analysis was conducted by taking into consideration the use of each sub-feature during good and bad times, as pre-defined. During good times, the result shows that for companies in the low discretion industry, the levels of 'Centrality' and 'Rapport' in their annual reports are statistically significantly higher (p-value = 0.031, d = 0.23, zL = 0.52, zH = 0.21; p-value = 0.033, d = 0.11,

zL = - 0.37, *zH* = - 0.45, respectively) than for companies in the high discretion industry. This is in line with Hypothesis 1(f) to posit that these sub-features will be statistically significantly higher to increase the COMMONALITY score of the financial communications of companies in the low discretion industry, than for those in the high discretion industry. Similarly, the result for the level of 'Cooperation' in the analysts' discussion is in line with Hypothesis 1(f), and was approaching a level of significance (*p*-value = 0.05, *d* = 0.21, *zL* = - 0.26, *zH* = - 0.38). For the sub-features that decrease the COMMONALITY score, the level of 'Diversity' in the analysts' discussions of the two industry groups was approaching a level of significance (*p*-value = 0.093, *d* = 0.07, *zL* = 0.20, *zH* = 0.27) and in the direction of Hypothesis 1(j). Lastly, the result for 'Liberation' in their analysts' discussions shows statistically significant difference (*p*-value = 0.002, *d* = 0.20; *zL* = - 0.49, *zH* = - 0.58) although it is contrary to Hypothesis 1(j).

Table 5.19 shows the results for the same sub-features of COMMONALITY by taking into consideration the use of each sub-feature by the companies in the low and high discretion industries during bad times, as pre-defined. During bad times, the result shows that for companies in the low discretion industry, the level of 'Centrality' in their analysts' discussions is statistically significantly higher (*p*-value = 0.005, *d* = 0.68, *zL* = - 0.29, *zH* = - 0.67) than for those in the high discretion industry. This is in line with Hypothesis 1(f) to posit that this sub-feature will be statistically significantly higher to increase the COMMONALITY score of the financial communications of companies in the low discretion industry, than for those in the high discretion industry. Similarly, the result for the level of 'Centrality' in the annual reports is in the direction of Hypothesis 1(f), and was approaching a level of significance (*p*-value = 0.084, *d* = 0.72, *zL* = 0.41, *zH* = - 0.08). On the other hand, the level of 'Liberation' in the annual reports of companies in the high discretion industry is statistically significantly higher (*p*-value = 0.010, *d* = 0.90, *zL* = 0.71, *zH* = - 0.13) than for the companies in the low discretion industry. Again, this is in line with Hypothesis 1(j) to posit that this sub-feature will be statistically significantly higher to decrease the COMMONALITY score of the financial communications of companies in the high discretion industry, than for those in the low discretion industry.

Table 5.20 shows the results for the same sub-features of COMMONALITY by taking into consideration the use of each sub-feature by the companies in the low discretion industry alone during good times and bad times, as predefined. The result shows that for companies with good performance results, the level of 'Centrality' in their analysts' discussions is statistically significantly lower (*p*-value = 0.016, *d* = 0.18, *zLg* = - 0.42, *zLb* = - 0.29) than for those with bad performance results. This is in line with Hypothesis 1(g) to posit that this sub-feature will be statistically significantly higher to increase the COMMONALITY score of the financial communications of companies with bad performance results in the low discretion industry, than for those with good financial results within the same industry. This is similar to the results

for the COMMONALITY scores in Table 5.16. For the level of 'Cooperation', the result for annual reports was approaching a level of significance and contrary to Hypothesis 1(g) (*p*-value = 0.073, *d* = 0.36, *zLg* = 0.74, *zLb* = 0.44).

On the other hand, the level of 'Diversity' in the annual reports of companies with good performance results in the low discretion industry is statistically significantly higher (*p*-value = 0.005, *d* = 0.42, *zLg* = 0.08, *zLb* = - 0.22) than for those with bad performance results. Similarly, the level of 'Liberation' in the analysts' discussions of companies with good performance results in the low discretion industry is statistically significantly higher (*p*-value = 0.007, *d* = 0.24, *zLg* = - 0.49, *zLb* = - 0.60) than for those with bad performance results. Again, both results are in line with Hypothesis 1(k) to posit that these sub-features will be statistically significantly higher to decrease the COMMONALITY scores of the financial communications of companies with good performance results in the low discretion industry, than for those with bad performance results.

Table 5.53 in appendix 8 shows the results for the same sub-features of COMMONALITY by taking into consideration the use of each sub-feature by the companies in the high discretion industry alone during good times and bad times, as predefined. The result shows that for companies with good performance results, the level of 'Liberation' in their annual reports is statistically significantly lower (*p*-value = 0.023, *d* = 0.07, *zHg* = - 0.50, *zHb* = - 0.47) than for those with bad performance results. This is in line with Hypothesis 1(l) to posit that this sub-feature will be statistically significantly higher to decrease the COMMONALITY score of the financial communications of companies with bad performance results in the high discretion industry, than for those with good financial results within the same industry. Similarly, the result for the level of 'Liberation' in the analysts' discussions was approaching a level of significance (*p*-value = 0.086, *d* = 0.23, *zHg* = - 0.58, *zHb* = - 0.51) and in the direction of prediction.

With respect to the CERTAINTY Master Variable of DICTION, Table 5.21 shows the results for its sub-features with the aim of analysing their use in the annual reports and analysts' discussions of the low and high discretion industries. In addition, the sub-features that increase or decrease the CERTAINTY score are shown in the table. The analysis was conducted by taking into consideration the use of each sub-feature during good and bad times, as pre-defined. During good times, the result shows that the level of 'Collectives' in both annual reports and analysts' discussions of both industries was approaching a level of significance (*p*-value = 0.058, *d* = 0.21, *zL* = - 0.01, *zH* = - 0.17; *p*-value = 0.059, *d* = 0.21, *zL* = - 0.83, *zH* = - 0.94, respectively) and contrary to Hypothesis 2(f). For the sub-features that decrease the CERTAINTY score, the level of 'Numerical Terms' in the analysts' discussions of companies in the low discretion industry is statistically significantly higher (*p*-value = 0.004, *d* = 0.27, *zL* = 0.70, *zH* = 0.45) than

for those in the high discretion industry. Similarly, the levels of 'Ambivalence' and 'Self-reference' in the annual reports of companies in the low discretion industry are statistically significantly higher (*p*-value = 0.018, *d* = 0.34, *zL* = - 1.37, *zH* = - 1.52; *p*-value < 0.024, *d* = 0.22, *zL* = - 0.60, *zH* = - 0.67, respectively) than for those in the high discretion industry. All of the results for these sub-features that reduce the CERTAINTY score are in line with Hypothesis 2(j) to posit that they will be statistically significantly higher to reduce the CERTAINTY score of companies in the low discretion industry than for those in the high discretion industry.

Table 5.22 shows the results for the same sub-features of CERTAINTY by taking into consideration the use of each sub-feature by the companies in the low and high discretion industries during bad times, as pre-defined. During bad times, the result shows that for companies in the low discretion industry, the level of 'Insistence' in their analysts' discussions is statistically significantly higher (*p*-value = 0.026, *d* = 0.59, *zL* = - 0.49, *zH* = - 0.68) than for those in the high discretion industry. This is contrary to Hypothesis 2(f). On the other hand, the level of 'Numerical Terms' in the analysts' discussions of companies in the low discretion industry is statistically significantly higher (*p*-value = 0.008, *d* = 0.72, *zL* = 0.96, *zH* = 0.25) than for those in the high discretion industry. This is in line with Hypothesis 2(j) to posit that this sub-feature will be statistically significantly higher to decrease the CERTAINTY score of the financial communications of companies in the low discretion industry, than for those in the high discretion industry.

Table 5.23 shows the results for the same sub-features of CERTAINTY by taking into consideration the use of each sub-feature by the companies in the low discretion industry alone during good times and bad times, as pre-defined. With respect to analysts' discussions, the result for the level of 'Tenacity' was approaching a level of significance (*p*-value = 0.066, *d* = 0.23, *zLg* = 1.24, *zLb* = 1.00) and in line with Hypothesis 2(g). Furthermore, it shows that for companies with good performance results, the level of 'Collectives' in their annual reports is statistically significantly higher (*p*-value = 0.035, *d* = 0.40, *zLg* = - 0.01, *zLb* = - 0.29) than for those with bad performance results. This is in line with Hypothesis 2(g) to posit that this sub-feature will be statistically significantly higher to increase the CERTAINTY score of the financial communications of companies with good performance results in the low discretion industry, than for those with bad financial results within the same industry.

On the other hand, the level of 'Numerical Terms' in the analysts' discussions of companies with bad performance results in the low discretion industry is statistically significantly higher (*p*-value = 0.040, *d* = 0.24, *zLg* = 0.70, *zLb* = 0.96) than for those with good performance results. Similarly, the level of 'Self-Reference' in the annual reports of companies with bad performance results is statistically significantly higher (*p*-value = 0.017, *d* = 0.36, *zLg* = - 0.60, *zLb* = - 0.45) than for those with good performance results.

Again, both results are in line with Hypothesis 2(k) to posit that these sub-features will be statistically significantly higher to decrease the CERTAINTY scores of the financial communications of companies with bad performance results in the low discretion industry, than for those with good performance results. Nonetheless, with respect to analysts' discussions, the results for 'Ambivalence' and 'Self-Reference' are contrary to Hypothesis 2(k) and were approaching a level of significance (*p*-value = 0.091, *d* = 0.15, *zLg* = 1.18, *zLb* = 1.01; *p*-value = 0.090, *d* = 0.17, *zLg* = 0.21, *zLb* = 0.12, respectively).

Table 5.57 in appendix 8 shows the results for the same sub-features of CERTAINTY by taking into consideration the use of each sub-feature by the companies in the high discretion industry alone during good and bad times, as predefined. For the sub-features that increase the CERTAINTY score, the result shows that for companies with good performance results, the level of 'Insistence' in their analysts' discussions was approaching a level of significance (*p*-value = 0.089, *d* = 0.47, *zHg* = - 0.52, *zHb* = - 0.68) and in line with Hypothesis 2(h). For the sub-features that decrease the CERTAINTY score, the result shows that for companies with bad performance results, the level of 'Self-Reference' in their annual reports is statistically significantly higher (*p*-value = 0.020, *d* = 0.01, *zHg* = - 0.67, *zHb* = - 0.67) than for those with good performance result. This is in line with Hypothesis 2(l) to posit that this sub-feature will be statistically significantly higher to decrease the CERTAINTY score of the financial communications of companies with bad performance results in the high discretion industry, than for those with good performance results within the same industry.

With respect to the ACTIVITY Master Variable of DICTION, Table 5.24 shows the results for its sub-features with the aim of analysing their use in the annual reports and analysts' discussions of the low and high discretion industries. In addition, the sub-features that increase or decrease the ACTIVITY score are shown in the table. The analysis was conducted by taking into consideration the use of each sub-feature during good and bad times, as pre-defined. During good times, the result shows that the levels of 'Aggression' and 'Accomplishment' in the analysts' discussions of companies in the high discretion industry are statistically significantly higher (*p*-value = 0.043, *d* = 0.21, *zL* = - 0.81, *zH* = - 0.72; *p*-value = 0.000, *d* = 0.30, *zL* = 0.11, *zH* = 0.33, respectively) than those in the low discretion industry. Similarly, the level of 'Accomplishment' in the annual reports of companies in the high discretion industry is statistically significantly higher (*p*-value = 0.017, *d* = 0.20, *zL* = 2.04, *zH* = 2.25) than for those in the low discretion industry. These results are in line with Hypothesis 3(f) to posit that these sub-features will be significantly higher to increase the ACTIVITY score for companies in the high discretion than for those in the low discretion industry.

The result for the level of 'Communication' in their analysts' discussions is contrary to Hypothesis 3(f) and was approaching a level of significance (*p*-value = 0.077, *d* = 0.23, *zL* = 0.32, *zH* = 0.09). For the sub-features that decrease the ACTIVITY score, the level of 'Cognition' in the analysts' discussions is statistically significant (*p*-value = 0.008, *d* = 0.14, *zL* = 0.49, *zH* = 0.64) but contrary to Hypothesis 3(j). Nevertheless, the level of 'Embellishment' in the annual reports of companies in the low discretion industry is statistically significantly higher (*p*-value = 0.004, *d* = 0.29, *zL* = 0.82, *zH* = 0.20) than for those in the high discretion industry. This is in line with Hypothesis 3(j) to posit that this sub-feature will be significantly higher to decrease the ACTIVITY score for companies in the low discretion than for those in the high discretion industry. Lastly, the level of 'Passivity' in the annual reports is in the direction of Hypothesis 3(j) and was approaching a level of significance (*p*-value = 0.081, *d* = 0.17, *zL* = 1.05, *zH* = 0.85).

Table 5..59 in appendix 8 shows the results for the same sub-features of ACTIVITY by taking into consideration the use of each sub-feature by the companies in the low and high discretion industries during bad times, as pre-defined. During bad times, none of the sub-features that increase the ACTIVITY score reached a level of significance to differentiate between the companies in the low and high discretion industries. Nevertheless, for the sub-features that decrease the ACTIVITY score, the levels of 'Passivity' and 'Embellishment' in their analysts' discussions and annual reports, respectively, are in the direction of Hypothesis 3(j) and were approaching a level of significance (*p*-value = 0.095, *d* = 0.67, *zL* = 0.13, *zH* = - 0.56; *p*-value = 0.073, *d* = 0.63, *zL* = 0.33, *zH* = - 0.12, respectively).

Table 5.60 in appendix 8 shows the results for the same sub-features of ACTIVITY by taking into consideration the use of each sub-feature by the companies in the low discretion industry alone during good and bad times, as pre-defined. With respect to analysts' discussions, the result for the level of 'Aggression' was approaching a level of significance (*p*-value = 0.081, *d* = 0.33, *zLg* = - 0.81, *zLb* = - 0.83) and contrary to Hypothesis 3(g). In addition, the level of 'Communication' in their annual reports was approaching a level of significance (*p*-value = 0.077, *d* = 0.18, *zL* = - 0.97, *zH* = - 1.05) and in the direction of Hypothesis 3(g) to posit that this sub-feature will be higher to increase the ACTIVITY score for companies with good performance results than for those with bad performance results. For the sub-features that decrease the ACTIVITY score, the level of 'Passivity' in their analysts' discussions was approaching a level of significance (*p*-value = 0.081, *d* = - 0.27, *zLg* = 0.17, *zLb* = - 0.13) and in the direction of Hypothesis (k) to posit that this sub-feature will be higher for companies with bad performance results than for those with good performance results. This means that companies with bad performance results are more likely to be passive in their communications with analysts, in comparison to those with good performance results.

Table 5.61 shows the results for the same sub-features of ACTIVITY by taking into consideration the use of each sub-feature by the companies in the high discretion industry alone during good and bad times, as pre-defined. For the sub-features that increase the ACTIVITY score, none of the sub-features reached a level of significance to differentiate between the companies with good and bad performance results. Nevertheless, for the sub-features that decrease the ACTIVITY score, the level of 'Embellishment' in the analysts' discussions of the companies was approaching a level of significance (*p*-value = 0.070, *d* = 0.25, *zHg* = 0.43, *zHb* = - 0.37) and contrary to Hypothesis 3(l).

With respect to the REALISM Master Variable of DICTION, Table 5.25 shows the results for its sub-features with the aim of analysing their use in the annual reports and analysts' discussions of the low and high discretion industries. In addition, the sub-features that increase or decrease the REALISM score are shown in the table. The analysis was conducted by taking into consideration the use of each sub-feature during good and bad times, as pre-defined. During good times, the result shows that the level of 'Concreteness' in the annual reports of companies in the low discretion industry is higher than those in the high discretion industry and was approaching a level of significance (*p*-value = 0.051, *d* = 0.22, *zL* = - 0.61, *zH* = - 0.73). This is in line with Hypothesis 4(f). For the sub-features that decrease the REALISM score, the level of 'Past Concern' in the annual reports of companies in the high discretion industry is statistically significantly higher (*p*-value = 0.012, *d* = 0.32, *zL* = - 0.58, *zH* = - 0.33) than those in the low discretion industry. Similarly, with respect to analysts' discussion, the result for the level of 'Past Concern' was approaching a level of significance (*p*-value = 0.068, *d* = 0.16) and in line with Hypothesis 4(j). Furthermore, the level of 'Complexity' in both the annual reports and analysts' discussions of companies in the high discretion industry is statistically significantly higher (*p*-value = 0.000, *d* = 0.51, *zL* = 1.53, *zH* = 2.00; *p*-value = 0.015, *d* = 0.15, *zL* = - 0.70, *zH* = - 0.60, respectively) than for those in the low discretion industry. In sum, all the results for the sub-features that decrease the REALISM score are in line with Hypothesis 4(j) to posit that they will be significantly higher to reduce the REALISM score of the financial communications of companies in the high discretion industry.

Table 5.26 shows the results for the same sub-features of REALISM by taking into consideration the use of each sub-feature by the companies in the low and high discretion industries during bad times, as pre-defined. During bad times, the result shows that for companies in the high discretion industry, the level of 'Present Concern' in both their annual reports and analysts' discussions is statistically significantly higher (*p*-value = 0.008, *d* = 1.12, *zL* = - 0.98, *zH* = - 0.11; *p*-value = 0.003, *d* = 0.72, *zL* = 0.42, *zH* = 1.18, respectively) than for those in the low discretion industry. This is contrary to Hypothesis 4(f) and particularly interesting, especially with the level of significance produced by the results. It suggests that during bad times, companies in the high discretion industry will communicate with more 'Present Concern'

for their bad performance results in comparison to those in the low discretion industry. Similarly, the level of 'Human Interest' in the analysts' discussions of companies in the high discretion industry is statistically significantly higher (*p*-value = 0.014, *d* = 0.61, *zL* = - 0.15, *zH* = 0.28) than those in the low discretion industry. Again, this is contrary to Hypothesis 4(f).

Furthermore, the level of 'Concreteness' in the analysts' discussions of companies in the low discretion industry is statistically significantly higher (*p*-value = 0.010, *d* = 0.81, *zL* = - 0.91, *zH* = - 1.35) than those in the high discretion industry. Similarly, the result for the annual reports, with respect to 'Concreteness' is line with Hypothesis 4(f) and was approaching a level of significance (*p*-value = 0.098, *d* = 0.82, *zL* = - 0.43, *zH* = - 0.87). With 'Concreteness', the results are in line with the prediction to posit that this sub-feature will be statistically significantly higher to increase the REALISM score of the financial communications of companies in the low discretion industry, than for those in the high discretion industry. With respect to the sub-feature that decrease the REALISM score, the level of 'Complexity' in the analysts' discussions of companies in the low discretion industry is statistically significantly higher (*p*-value = 0.016, *d* = 0.77, *zL* = - 0.60, *zH* = - 1.03) than for those in the high discretion industry. This is contrary to Hypothesis 4(j). In addition, it is similar to the results observed for Flesch Reading Ease in Table 5.14 when measuring for the readability of corporate narratives during bad times. This study posits that while it is more complex to read and understand the corporate narratives of companies in the high discretion industry in comparison to companies in the low discretion industry, this may likely have a further negative impact on the stakeholder community during bad times. Accordingly, the difficulty in their narratives may need to be reduced in a way that it makes it easier for their stakeholders to understand the reasons why they are experiencing bad performance results.

Table 5.27 shows the results for the same sub-features of REALISM by taking into consideration the use of each sub-feature by the companies in the low discretion industry alone during good times and bad times, as pre-defined. With respect to analysts' discussions, the result for the level of 'Concreteness' is statistically significantly higher (*p*-value = 0.001, *d* = 0.42, *zLg* = - 1.17, *zLb* = - 0.91) for companies with bad performance results than for those with good performance results. This is contrary to Hypothesis 4(g). The result suggests that low discretion companies communicate more during bad times with language of tangibility and neutrality to explain their financial circumstances than they would normally do when they report good performance results. With respect to the sub-features that decrease the REALISM score, the level of 'Past Concern' in the analysts' discussions was approaching as level of significance (*p*-value = 0.091, *d* = 0.21, *zLg* = 0.02, *zLb* = - 0.14) and contrary to Hypothesis (k). In addition, the level of 'Complexity' in the annual reports is in the direction of prediction and was approaching a level of significance (*p*-value = 0.066, *d* = 0.19, *zLg* = 1.53, *zLb* = 1.50). It shows that there is a higher level of

complexity in the analysts' discussions of low discretion companies with bad performance results than those with good performance results.

Table 5.28 shows the results for the same sub-features of REALISM by taking into consideration the use of each sub-feature by the companies in the high discretion industry alone during good and bad times, as pre-defined. For the sub-features that increase the REALISM score, the level of 'Present Concern' in both the annual reports and analysts' discussions of companies with bad performance results is statistically significantly higher (*p*-value = 0.027, *d* = 0.82, *zHg* = - 0.78, *zHb* = - 0.11; *p*-value = 0.004, *d* = 0.65, *zHg* = 0.50, *zHb* = 1.18) than for those with good performance results. This is contrary to Hypothesis 4(h). Similarly, the level of 'Human Interest' in the analysts' discussions of companies with bad performance results is statistically significantly higher (*p*-value = 0.008, *d* = 0.49, *zHg* = - 0.10, *zHb* = 0.28) than for those with good performance results. Again, this is contrary to Hypothesis 4(h). For the level of 'Concreteness' in the analysts' discussions, the result is in line with prediction and was approaching a level of significance (*p*-value = 0.091, *d* = 0.49, *zHg* = - 1.14 *zHb* = - 1.35). With respect to the sub-features that decrease the REALISM score, the level of 'Complexity' in the analysts' discussions of companies with good performance results is statistically significantly higher (*p*-value = 0.011, *d* = 0.73, *zHg* = - 0.60, *zHb* = - 1.03) than those with bad performance results. This is contrary to Hypothesis 4(l). This study posits that while it is complex to read and understand the corporate narratives of companies in the high discretion industries in comparison to companies in the low discretion industry, doing so when they are faced with bad performance results may likely have a further negative impact on the stakeholder community. Hence, the complexity in their narratives may need to be reduced in a way that it makes it easier for their stakeholders to understand the reasons why they are experiencing bad performance results.

With respect to the OPTIMISM Master Variable of DICTION, Table 5.29 shows the results for its sub-features with the aim of analysing their use in the annual reports and analysts' discussions of the low and high discretion industries. In addition, the sub-features that increase or decrease the OPTIMISM score are shown in the table. The analysis was conducted by taking into consideration the use of each sub-feature during good and bad times, as pre-defined. During good times, the result shows that the level of 'Praise' in the analysts' discussions of companies in the high discretion industry is statistically significantly higher (*p*-value = 0.002, *d* = 0.21, *zLg* = 0.13, *zHg* = 0.35) than those in the low discretion industry. Similarly, the level of 'Inspiration' in the annual reports of companies in the high discretion industry is statistically significantly higher (*p*-value = 0.027, *d* = 0.18, *zLg* = 0.23, *zHg* = 0.41) than those in the low discretion industry. The two results are in line with Hypothesis 5(f) to posit that both 'Praise' and 'Inspiration' will be significantly higher to increase the OPTIMISM score for companies in the high

discretion industry than for those in the low discretion industry. For the sub-features that decrease the OPTIMISM score, the levels of 'Blame' and 'Denial' in the annual reports of companies in the low discretion industry are statistically significantly higher (*p*-value = 0.005, *d* = 0.23, *zLg* = - 0.70, *zHg* = - 0.78; *p*-value = 0.000, *d* = 0.36, *zL* = - 1.37, *zH* = - 1.48, respectively) than for those in the high discretion industry. The two results are in line with Hypothesis 5(j) to posit that both 'Blame' and 'Denial' will be statistically significantly higher to reduce the OPTIMISM score for companies in the low discretion industry in comparison to those in the high discretion industry.

Table 5.67 in appendix 8 shows the results for the same sub-features of OPTIMISM by taking into consideration the use of each sub-feature by the companies in the low and high discretion industries during bad times, as pre-defined. During bad times, the results show that the sub-features that increase the OPTIMISM score are in the direction of the predictions made for them although they did not reach any level of significance. The results for 'Praise', 'Satisfaction', and 'Inspiration' (excluding that of analysts' discussions) are higher for companies in the high discretion industry than for those in the low discretion industry. With respect to the sub-features that decrease the OPTIMISM score, the level of 'Hardship' in the analysts' discussions is contrary to Hypothesis 5(j) and was approaching a level of significance (*p*-value = 0.095, *d* = 0.24, *zLb* = - 1.02, *zHb* = - 0.97). During bad times, the level of 'Hardship' in the analysts' discussions of companies in the high discretion industry is higher than for those in the low discretion industry. This is contrary to the prediction.

Table 5.68 in appendix 8 shows the results for the same sub-features of OPTIMISM by taking into consideration the use of each sub-feature by the companies in the low discretion industry alone during good and bad times, as pre-defined. With respect to annual reports, the result for the level of 'Praise' is in the direction of Hypothesis 5(g) and was approaching a level of significance (*p*-value = 0.057, *d* = 0.33, *zLg* = - 0.07, *zLb* = - 0.35). Similarly, the result for the level of 'Inspiration' in their analysts' discussions is in the direction of Hypothesis 5(g) and was approaching a level of significance (*p*-value = 0.052, *d* = 0.21, *zLg* = - 0.68, *zLb* = - 0.79). For both sub-features, the results suggest that both will be higher for companies with good performance results than those with bad performance results.

Table 5.30 shows the results for the same sub-features of OPTIMISM by taking into consideration the use of each sub-feature by the companies in the high discretion industry alone during good and bad times, as pre-defined. For the sub-features that increase the OPTIMIISM score, none of the sub-features shows any level of statistically significant difference in their use between companies with good and bad performance results. With respect to the sub-features that decrease the OPTIMISM score, the result shows that the level of 'Denial' in the annual reports of companies with bad performance results is

statistically significantly higher (*p*-value = 0.005, *d* = 0.81, *zHg* = - 1.48, *zHb* = - 1.28) than those with good performance results. This is in line with the Hypothesis 5(l) to posit that this sub-feature will be significantly higher to reduce the OPTIMISM score of companies with bad performance results. Similar result was observed for the analysts' discussions although it did not reach a level of significance (*p*-value = 0.643, *d* = 0.15).

With respect to analysis for LIWC, Table 5.31 shows the results for the select 11 language categories with the aim of analysing for their use in the annual reports and analysts' discussions of the low and high discretion industries. The analysis was conducted by taking into consideration the use of each language category during good and bad times, as pre-defined. During good times, the result shows that the level of 'Tone' in both the annual reports and analysts' discussions are in the line with Hypothesis 6(b), although the former did not reach a level of significance (*p*-value = 0.134, *d* = 0.21). Specifically, the level of 'Tone' in the analysts' discussions of companies in the high discretion industry is statistically significantly higher (*p*-value = 0.000, *d* = 0.56, *zLg* = 0.76, *zHg* = 1.02) than those in the low discretion industry. This is in line with Hypothesis 6(b) to posit that the level of 'Tone' in the financial communications of companies in the high discretion will be significantly higher than for those in the low discretion industry. Furthermore, the result shows that the level of 'First Person Singular Pronoun' in the annual reports of companies in the low discretion industry is statistically significantly higher (*p*-value = 0.018, *d* = 0.26, *zLg* = - 1.91, *zHg* = - 1.95) than for those in the high discretion industry. This is in line with Hypothesis 2(j) to posit that the level of 'First Person Singular Pronoun' will be significantly higher for companies in the low discretion industry than for those in the high discretion industry.

In addition, the result shows that the level of 'Positive Emotion' in the analysts' discussions of companies in the high discretion industry is statistically significantly higher (*p*-value = 0.000, *d* = 0.53, *zLg* = - 0.37, *zHg* = - 0.15) than for those in the low discretion industry. This is line with Hypothesis 5(f). Furthermore, the results show that for both annual reports and analysts' discussions, the level of 'Negative Emotion' is statistically significantly higher (*p*-value = 0.000, *d* = 0.42, *zLg* = - 1.08, *zHg* = - 1.24; *p*-value = 0.002, *d* = 0.25, *zLg* = - 1.20, *zHg* = - 1.26, respectively) for companies in the low discretion industry than for those in the high discretion industry. Again, this is in line with Hypothesis 5(j). Similarly, the result shows that the level of 'Achievement' in both the annual reports and analysts' discussions of companies in the high discretion industry is statistically significantly higher (*p*-value = 0.000, *d* = 0.53, *zLg* = 2.78, *zHg* = 3.41; *p*-value = 0.000, *d* = 0.49, *zLg* = 1.07, *zHg* = 1.49, respectively) than for those in the low discretion industry. Again, this is line with Hypothesis 3(f). Furthermore, the result shows that the level of 'Risk' in the annual reports of companies in the low discretion industry is statistically significantly higher (*p*-value = 0.002, *d* = 0.26, *zLg* = - 0.07, *zHg* = - 0.29) than for those in the high discretion industry. This is in line

with Hypothesis 2(j). Finally, the result shows that the level of 'Motion' in the analysts' discussions of companies in the high discretion industry is statistically significantly higher (*p*-value = 0.000, *d* = 0.36, *zLg* = 0.42, *zHg* = 0.62) than for those in the low discretion industry. Again, this is in line with Hypothesis 3(f).

Table 5.32 shows the results for the same language categories and their use by companies in the low and high discretion industries during bad times, as pre-defined. During bad times, the results show that the level of 'Tone' in both the annual reports and analysts' discussions of companies in the high discretion industry is statistically significantly higher (*p*-value = 0.041, *d* = 1.08, *zLb* = 0.97, *zHb* = 1.50; *p*-value = 0.000, *d* = 1.42, *zLb* = 0.52, *zHb* = 1.21, respectively) than for those in the low discretion industry. This is in line with Hypothesis 6(b). Similarly, the level of 'Positive Emotion' in both the annual reports and analysts' discussions are in line with Hypothesis 5(f). Specifically, it shows that the level of 'Positive Emotion' in the analysts' discussions of companies in the high discretion industry is statistically significantly higher (*p*-value = 0.000, *d* = 1.13, *zLb* = - 0.52, *zHb* = - 0.03) than for those in the low discretion industry. Again, this is in line with the prediction. On the other hand, the results show that the level of 'Negative Emotion' in both the annual reports and analysts' discussions of companies in the low discretion industry is statistically significantly higher (*p*-value = 0.005, *d* = 1.19, *zLb* = - 1.00, *zHb* = - 1.40; *p*-value = 0.001, *d* = 1.02, *zLb* = - 1.15, *zHb* = - 1.34, respectively) than for those in the high discretion industry. This is in line with Hypothesis 5(j). Similarly, the level of 'Risk' in the annual reports of the companies in the low discretion industry is statistically significantly higher (*p*-value = 0.049, *d* = 0.84, *zLb* = 0.00, *zHb* = - 0.51) than for those in the high discretion industry. Again, this is in line with Hypothesis 2(j). Furthermore, the results for both 'Past Focus' and 'Present Focus' were approaching a level of significance (*p*-value = 0.96, *d* = 0.74, *zLb* = - 1.23, *zHb* = - 1.38; *p*-value = 0.075, *d* = 0.47, *zLb* = 0.28, *zHb* = 0.56, respectively) and contrary to Hypotheses 4(j) and 4(f), respectively. Although the two language categories are contrary to the prediction, however, the result for 'Present Focus' aligns to the direction of the result observed for similar DICTION sub-feature - 'Present Concern', as shown in Table 5.26.

Table 5.33 shows the results for the same language categories and their use by companies in the low discretion industry alone during good and bad times, as pre-defined. The result shows that the level of 'Tone' in both the annual reports and analysts' discussions are in line with Hypothesis 6(c), although the former did not reach a level of significance (*p*-value = 0.149, *d* = 0.26). Specifically, the result shows that the level of 'Tone' in the analysts' discussions of companies with good performance results is statistically significantly higher (*p*-value = 0.000, *d* = 0.45, *zLg* = 0.76, *zLb* = 0.52) than for those with bad performance results. This is in line with Hypothesis 6(c). Furthermore, the result shows that the level of 'First Person

Singular Pronoun' in the annual reports of companies with bad performance results is statistically significantly higher (*p*-value = 0.001, *d* = 0.55, *zLg* = - 1.91, *zLb* = - 1.80) than for those with good performance results. This is contrary to Hypothesis 2(k). On the other hand, the result shows that the level of 'First Person Plural Pronoun' in the analysts' discussions of companies with bad performance results is statistically significantly higher (*p*-value = 0.002, *d* = 0.37, *zLg* = 5.07, *zLb* = 5.48) than for those with good performance results. This is in line with Hypothesis 2(g) to posit that companies experiencing bad performance results are more likely to use such language to either collectively take responsibility or share the blame for bad performance results.

Furthermore, the result shows that the level of 'Positive Emotion' in the analysts' discussions of companies with good performance results is statistically significantly higher (*p*-value = 0.002, *d* = 0.34, *zLg* = - 0.37, *zLb* = - 0.52) than for those with bad performance results. This is in line with Hypothesis 5(g). In addition, the result for the level of 'Negative Emotion' in the analysts' discussions of companies with bad performance results is statistically significantly higher (*p*-value = 0.037, *d* = 0.25, *zLg* = - 1.20, *zLb* = - 1.15) than for those with good performance results. Again, this is in line with Hypothesis 5(k). Similarly, the result for the level of 'Past Focus' in the annual reports of companies with bad performance results is statistically significantly higher (*p*-value = 0.027, *d* = 0.37, *zLg* = - 1.33, *zLb* = - 1.23) than for those with good performance results. Again, this is in line with Hypothesis 4(k). Finally, the result for the level of 'Motion' in the analysts' discussions is in line with Hypothesis 3(g) and was approaching a level of significance (*p*-value = 0.052, *d* = 0.25, *zLg* = 0.42, *zLb* = 0.26). Specifically, it shows that the level of 'Motion' in both the annual reports and analysts' discussions is higher for companies with good performance results than for those with bad performance results.

Table 5.34 shows the results for the same language categories and their use by companies in the high discretion industry alone during good and bad times, as pre-defined. The result shows that the level of 'First Person Singular Pronoun' in the annual reports of companies with bad performance results is statistically significantly higher (*p*-value = 0.015, *d* = 0.78, *zHg* = - 1.95, *zHb* = - 1.82) than for those with good performance results. This is contrary to Hypothesis 2(j). Although this is contrary to the direction of prediction, nonetheless, it aligns to the direction of the result observed for similar DICTION sub-feature - 'Self-Reference', as shown in Table 5.57 in appendix 8. On the other hand, the result for the level of 'First Person Plural Pronoun' in the analysts' discussions is in the direction of Hypothesis 2(g) and was approaching a level of significance (*p*-value = 0.093, *d* = 0.43, *zHg* = 5.07, *zHb* = 5.60). Specifically, it shows that companies experiencing bad performance results are more likely to use such language that suggests either collective responsibility or sharing the blame for bad performance results. Furthermore, the level of 'Achievement' in the analysts' discussions is in the direction of the prediction and was

approaching a level of significance (*p*-value = 0.066, *d* = 0.57, *zHg* = 1.49, *zHb* = 1.06). Specifically, it suggests that companies with good performance results are more likely to communicate with the language of achievement of their target results than those with bad performance results. This is in line with Hypothesis 3(h). In addition, the result for the level of 'Past Focus' in the analysts' discussions was approaching a level of significance (*p*-value = 0.072, *d* = 0.49, *zHg* = - 0.88, *zHb* = - 1.01) and contrary to the direction of Hypothesis 4(l). Finally, the level of 'Present Focus' in the analysts' discussions of companies with bad performance results is statistically significantly higher (*p*-value = 0.021, *d* = 0.61, *zHg* = 0.23, *zHb* = 0.56) than for those with good performance results. Again, this is contrary to Hypothesis 4(h). Although the result is contrary to prediction, nevertheless, it aligns to the direction of the result observed for similar DICTION sub-feature - 'Present Concern', as shown in Table 5.28.

8. Tables of Results Comprehensive Listing 5.38 to 5.73

Tables 5.38 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (Macro-level Analysis)

Master Variable	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
			Low	High	Low	High	
COMMONALITY	AR	0.000***	49.60	48.85	1.67	2.13	0.39
	AD	0.050**	48.33	48.22	2.12	2.46	0.05
CERTAINTY	AR	0.000***	47.39	48.73	4.17	3.73	0.34
	AD	0.054*	39.62	38.28	7.39	7.85	0.18
ACTIVITY	AR	0.002***	49.25	49.90	2.13	2.01	0.31
	AD	0.344	49.85	49.88	2.43	2.36	0.26
REALISM	AR	0.031**	53.88	53.10	2.47	2.78	0.30
	AD	0.046**	57.56	57.24	2.80	2.76	0.11
OPTIMISM	AR	0.286	54.52	54.76	3.40	3.26	0.07
	AD	0.071*	54.43	54.85	5.90	5.67	0.07
Readability Score	AR	0.000***	30.92	27.44	7.99	7.81	0.44
	AD	0.246	58.54	58.12	6.84	6.71	0.06
Readability Grade	AR	0.059*	14.62	15.15	1.97	1.62	0.29
	AD	0.177	9.49	9.65	1.51	1.42	0.11

***p*-value < 0.1; ***p*-value <0.05; ****p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

Table 5.39 Non-Parametric Test of Statistical Significance between Flesch Index Scores of the Two Document Types (Annual Reports vs Analysts' Discussions)

Flesch Index Scores	Document Type	Kruskal-Wallis Sig. Test	Mean Values	Standard Deviation	Cohen's *d*
Readability Score	AR – LD	0.000***	30.92	7.99	3.71
	AD – LD		58.54	6.84	
Readability Grade	AR – LD	0.000***	14.62	1.97	2.92
	AD – LD		9.49	1.51	
Readability Score	AR – HD	0.000***	27.44	7.81	4.21
	AD – HD		58.12	6.71	
Readability Grade	AR – HD	0.000***	15.15	1.62	3.61
	AD – HD		9.65	1.42	
Readability Score	Agg.AR - L&H	0.000***	29.18	8.08	3.91
	Agg.AD - L&H		58.35	6.78	
Readability Grade	Agg.AR - L&H	0.000***	14.89	1.82	3.21
	Agg.AD - L&H		9.57	1.47	

******p*-value < 0.1; *****p*-value <0.05; ******p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

Agg.AR – Aggregated Annual Reports
Agg.AD – Aggregated Analysts' Discussions

L&H : L = Low Discretion; H = High Discretion

Table 5.40 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (Micro-level Analysis)

Sub-features of COMMONALITY	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Increase COMMONALITY Score			**Low**	**High**	**Low**	**High**	
Centrality	AR	0.003***	5.92	4.98	3.94	4.00	0.24
	AD	0.002***	3.17	2.82	2.26	2.36	0.15
Cooperation	AR	0.096*	6.93	7.58	3.60	3.44	0.19
	AD	0.03**	3.33	2.85	2.52	2.15	0.21
Rapport	AR	0.031**	1.62	1.49	1.13	1.50	0.09
	AD	0.559	1.31	1.36	1.63	2.76	0.02
Items that Decrease COMMONALITY Score							
Diversity	AR	0.006***	1.89	2.48	1.38	1.85	0.36
	AD	0.040**	2.25	2.44	1.92	1.91	0.10
Exclusion	AR	0.173	2.61	3.15	1.89	2.97	0.22
	AD	0.166	1.75	1.81	1.80	1.63	0.04
Liberation	AR	0.746	0.75	0.89	0.70	0.96	0.17
	AD	0.065*	0.76	0.64	1.19	0.88	0.11

***p-value < 0.1; **p-value <0.05; ***p-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

Table 5.41 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (Micro-level Analysis)

Sub-features of CERTAINTY	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Increase CERTAINTY Score			**Low**	**High**	**Low**	**High**	
Tenacity	AR	0.297	20.58	20.00	6.52	5.99	0.09
	AD	0.533	41.06	40.58	8.36	8.30	0.06
Levelling terms	AR	0.386	4.82	4.64	2.51	3.00	0.07
	AD	0.065*	10.05	10.23	8.03	4.78	0.03
Collectives	AR	0.275	8.67	8.31	3.85	3.87	0.07
	AD	0.025**	5.01	4.34	3.27	2.42	0.23
Insistence	AR	0.010**	69.39	80.81	43.42	43.93	0.26
	AD	0.357	35.69	33.32	24.36	20.88	0.10
Items that Decrease CERTAINTY Score							
Numerical Terms	AR	0.052*	24.00	21.20	13.31	13.14	0.21
	AD	0.000***	13.49	10.89	7.94	6.33	0.36
Ambivalence	AR	0.005***	4.16	3.28	2.91	2.47	0.32
	AD	0.695	20.04	21.06	7.27	10.47	0.11
Self-Reference	AR	0.000***	2.47	1.61	3.19	2.56	0.30
	AD	0.033**	8.44	9.26	4.96	4.99	0.16
Variety	AR	0.492	0.55	0.55	0.07	0.06	0.00
	AD	0.650	0.53	0.52	0.07	0.07	0.14

***p*-value < 0.1; *******p*-value <0.05; ********p*-value <0.01

AR = Annual Report
AD = Analysts' Discussion

Table 5.42 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (Micro-level Analysis)

Sub-features of ACTIVITY	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Increase ACTIVITY Score			**Low**	**High**	**Low**	**High**	
Aggression	AR	0.023**	3.58	3.12	2.11	2.26	0.21
	AD	0.006***	1.88	2.35	1.51	2.41	0.24
Accomplishment	AR	0.024**	34.57	35.55	13.40	9.13	0.09
	AD	0.000***	15.37	17.43	7.13	6.88	0.29
Communication	AR	0.270	2.21	2.62	2.06	2.93	0.16
	AD	0.042**	8.57	7.39	5.67	3.80	0.25
Motion	AR	0.045**	1.95	2.46	1.53	2.17	0.27
	AD	0.086*	3.92	4.16	2.42	2.29	0.10
Items that Decrease ACTIVITY Score							
Cognition	AR	0.426	7.51	7.21	3.61	3.87	0.08
	AD	0.003***	11.66	12.46	5.61	4.73	0.15
Passivity	AR	0.059*	8.26	7.62	3.47	3.64	0.18
	AD	0.008***	4.69	4.13	3.13	3.62	0.17
Embellishment	AR	0.002***	0.98	0.74	1.17	0.53	0.27
	AD	0.431	0.75	0.84	1.62	2.18	0.05

***p*-value < 0.1; ***p*-value <0.05; ****p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

Table 5.43 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (Micro-level Analysis)

Sub-features of REALISM	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Increase REALISM Score			**Low**	**High**	**Low**	**High**	
Familiarity	AR	0.205	125.14	123.55	14.05	12.52	0.12
	AD	0.273	129.53	131.46	14.67	11.84	0.14
Spatial Terms	AR	0.173	9.11	8.38	4.92	4.95	0.15
	AD	0.421	9.02	9.06	4.54	8.26	0.00
Temporal Terms	AR	0.633	15.36	15.77	4.99	5.53	0.07
	AD	0.070*	16.85	15.99	6.91	6.37	0.13
Present Concern	AR	0.074*	7.87	8.27	6.12	3.84	0.08
	AD	0.534	14.38	14.42	5.48	5.11	0.00
Human Interest	AR	0.280	25.19	26.23	11.06	12.87	0.09
	AD	0.733	31.21	30.77	16.52	10.14	0.03
Concreteness	AR	0.003***	14.83	13.03	5.56	4.95	0.34
	AD	0.209	9.97	9.36	5.20	4.61	0.12
Items that Decrease REALISM Score							
Past Concern	AR	0.005***	2.10	2.69	1.30	2.45	0.30
	AD	0.005***	3.49	3.99	2.12	2.46	0.22
Complexity	AR	0.000***	5.07	5.20	0.23	0.30	0.52
	AD	0.144	4.41	4.42	0.20	0.18	0.05

***p*-value < 0.1; ***p*-value <0.05; ****p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

Table 5.44 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (Micro-level Analysis)

Sub-features of OPTIMISM	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Increase OPTIMISM Score			**Low**	**High**	**Low**	**High**	
Praise	AR	0.897	5.58	5.54	2.96	3.05	0.01
	AD	0.000***	6.51	7.33	3.48	3.38	0.24
Satisfaction	AR	0.826	3.32	3.36	3.03	2.82	0.02
	AD	0.190	6.09	6.23	6.88	6.70	0.02
Inspiration	AR	0.030**	7.64	8.28	5.44	4.24	0.13
	AD	0.019**	2.92	3.16	2.75	2.61	0.08
Items that Decrease OPTIMISM Score							
Blame	AR	0.010**	0.62	0.51	0.67	0.74	0.16
	AD	0.690	0.95	0.98	1.40	1.36	0.02
Hardship	AR	0.267	1.34	1.60	1.43	1.61	0.17
	AD	0.841	1.25	1.32	1.28	1.72	0.04
Denial	AR	0.000***	1.10	0.74	1.16	1.05	0.32
	AD	0.725	5.75	5.73	3.47	3.60	0.00

***p*-value < 0.1; ***p*-value <0.05; ****p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

Table 5.45 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (LIWC)

LIWC Category	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
			Low	High	Low	High	
Tone	AR	0.008***	79.22	83.56	13.96	11.64	0.34
	AD	0.000***	69.96	78.19	12.16	10.67	0.72
First Person Singular Pronoun	AR	0.000***	0.36	0.21	0.45	0.31	0.39
	AD	0.245	1.35	1.44	0.56	0.73	0.14
First Person Plural Pronoun	AR	0.287	4.26	4.53	1.71	2.17	0.14
	AD	0.184	5.04	4.96	0.93	1.05	0.08
Positive Emotion	AR	0.324	3.88	3.97	1.02	0.93	0.08
	AD	0.000***	2.98	3.43	0.70	0.71	0.65
Negative Emotion	AR	0.000***	0.69	0.48	0.37	0.43	0.52
	AD	0.000***	0.55	0.46	0.24	0.24	0.36
Certainty	AR	0.275	1.05	1.00	0.38	0.37	0.13
	AD	0.229	1.34	1.39	0.38	0.39	0.13
Achievement	AR	0.000***	3.62	4.10	1.06	1.04	0.46
	AD	0.000***	2.17	2.50	0.70	0.74	0.47
Risk	AR	0.000***	0.45	0.34	0.29	0.34	0.33
	AD	0.194	0.28	0.27	0.16	0.17	0.06
Past Focus	AR	0.658	1.97	1.95	0.56	0.78	0.03
	AD	0.332	2.80	2.82	0.85	0.65	0.03
Present Focus	AR	0.7	5.21	5.19	1.38	1.47	0.02
	AD	0.659	10.63	10.66	1.68	1.70	0.02
Motion	AR	0.032**	2.83	3.06	0.73	0.89	0.28
	AD	0.000***	2.53	2.78	0.61	0.58	0.42

***p*-value < 0.1; ***p*-value <0.05; ****p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

Table 5.46 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (Macro-level Analysis) – Good Times

Master Variable	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
			Low	High	Low	High	
COMMONALITY	AR	0.002***	49.55	48.90	1.80	2.15	0.32
	AD	0.623	48.07	48.24	1.95	2.51	0.07
CERTAINTY	AR	0.023**	48.03	48.89	3.61	3.64	0.24
	AD	0.264	39.15	38.29	7.03	7.88	0.12
ACTIVITY	AR	0.002***	49.12	49.92	2.07	2.03	0.39
	AD	0.678	50.05	49.86	2.42	2.37	0.08
REALISM	AR	0.033**	53.96	53.03	2.54	2.82	0.35
	AD	0.062*	57.58	57.13	2.83	2.96	0.16
OPTIMISM	AR	0.679	54.70	54.72	3.57	3.30	0.01
	AD	0.163	54.65	54.71	6.34	5.14	0.01
Readability Score	AR	0.001***	31.30	27.34	8.24	7.79	0.49
	AD	0.02**	59.00	57.93	6.83	6.75	0.16
Readability Grade	AR	0.023**	14.46	15.14	2.00	1.49	0.38
	AD	0.019**	9.40	9.69	1.62	1.43	0.20

****p*-value < 0.1; ***p*-value <0.05; ****p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

Table 5.47 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (Macro-level Analysis) – Bad Times

Master Variable	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
			Low	High	Low	High	
COMMONALITY	AR	0.007***	49.68	47.56	1.42	1.60	1.17
	AD	0.025**	48.81	47.92	2.35	1.22	0.48
CERTAINTY	AR	0.609	46.01	45.82	5.09	4.31	0.04
	AD	0.355	40.45	38.09	7.98	7.51	0.31
ACTIVITY	AR	0.896	49.52	49.51	2.23	1.72	0.00
	AD	0.263	49.46	50.24	2.44	2.18	0.34
REALISM	AR	0.528	53.75	54.27	2.39	1.60	0.26
	AD	0.06*	57.53	59.16	2.75	3.25	0.54
OPTIMISM	AR	0.164	54.28	55.38	3.04	2.53	0.39
	AD	0.47	53.94	57.14	4.90	11.37	0.37
Readability Score	AR	0.794	30.29	29.21	7.70	8.54	0.13
	AD	0.041**	57.69	61.35	6.79	5.23	0.60
Readability Grade	AR	0.836	14.92	15.26	1.93	1.55	0.18
	AD	0.065*	9.66	9.00	1.86	1.08	0.50

***p*-value < 0.1; *******p*-value <0.05; ********p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

Table 5.48 Non-Parametric Test of Statistical Significance between Good & Bad Times (Macro-level Analysis) – Low Discretion Industry

Master Variable	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
			Low (Good)	Low (Bad)	Low (Good)	Low (Bad)	
COMMONALITY	AR	0.609	49.55	49.68	1.80	1.42	0.08
	AD	0.016**	48.07	48.81	1.95	2.35	0.34
CERTAINTY	AR	0.006***	48.03	46.01	3.61	5.09	0.46
	AD	0.115	39.15	40.45	7.03	7.98	0.17
ACTIVITY	AR	0.443	49.12	49.52	2.07	2.23	0.19
	AD	0.002***	50.05	49.46	2.42	2.44	0.25
REALISM	AR	0.946	53.96	53.75	2.54	2.39	0.00
	AD	0.42	57.58	57.53	2.83	2.75	0.02
OPTIMISM	AR	0.437	54.70	54.28	3.57	3.04	0.13
	AD	0.62	54.65	53.94	6.34	4.90	0.13
Readability Score	AR	0.636	31.30	30.29	8.24	7.70	0.13
	AD	0.035**	59.00	57.69	6.83	6.79	0.19
Readability Grade	AR	0.131	14.46	14.92	2.00	1.93	0.23
	AD	0.063*	9.40	9.66	1.49	1.55	0.17

***p*-value < 0.1; ***p*-value <0.05; ****p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

Table 5.49 Non-Parametric Test of Statistical Significance between Good & Bad Times (Macro-level Analysis) – High Discretion Industry

Master Variable	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
			High (Good)	High (Bad)	High (Good)	High (Bad)	
COMMONALITY	AR	0.135	48.90	47.91	2.15	1.60	0.52
	AD	0.336	48.24	47.92	2.51	1.22	0.16
CERTAINTY	AR	0.018**	48.89	45.82	3.64	4.31	0.77
	AD	0.954	38.29	38.09	7.88	7.51	0.03
ACTIVITY	AR	0.503	49.92	49.51	2.03	1.72	0.22
	AD	0.783	49.86	50.24	2.37	2.18	0.17
REALISM	AR	0.201	53.03	54.27	2.82	1.60	0.54
	AD	0.005***	57.13	59.16	2.69	3.25	0.68
OPTIMISM	AR	0.434	54.72	55.38	3.30	2.53	0.22
	AD	0.991	54.71	57.14	5.14	11.37	0.28
Readability Score	AR	0.581	27.34	29.21	7.79	8.54	0.23
	AD	0.054*	57.93	61.35	6.75	5.23	0.57
Readability Grade	AR	0.894	15.14	15.26	1.62	1.86	0.07
	AD	0.046**	9.69	9.00	1.43	1.08	0.54

***p*-value < 0.1; ***p*-value <0.05; ****p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

Table 5.50 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (Micro-level Analysis) – Good Times

Sub-features of COMMONALITY	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Increase COMMONALITY Score			**Low**	**High**	**Low**	**High**	
Centrality	AR	0.031**	6.02	5.03	4.57	4.09	0.23
	AD	0.124	3.03	2.86	2.31	2.40	0.07
Cooperation	AR	0.531	7.37	7.63	3.85	3.49	0.07
	AD	0.050*	3.36	2.87	2.54	2.18	0.21
Rapport	AR	0.033**	1.63	1.48	1.17	1.52	0.11
	AD	0.999	1.16	1.36	1.04	2.84	0.10
Items that Decrease COMMONALITY Score							
Diversity	AR	0.175	2.09	2.09	1.40	1.85	0.00
	AD	0.093*	2.31	2.45	2.00	1.93	0.07
Exclusion	AR	0.396	2.74	3.17	2.07	3.04	0.17
	AD	0.169	1.76	1.83	1.84	1.65	0.04
Liberation	AR	0.608	0.77	0.84	0.68	0.90	0.08
	AD	0.002***	0.85	0.63	1.31	0.89	0.20

***p*-value < 0.1; ***p*-value <0.05; ****p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

Table 5.51 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (Micro-level Analysis) – Bad Times

Sub-features of COMMONALITY	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Increase COMMONALITY Score			**Low**	**High**	**Low**	**High**	
Centrality	AR	0.084*	5.65	4.12	2.37	1.86	0.72
	AD	0.005***	3.43	2.22	2.15	1.33	0.68
Cooperation	AR	0.587	6.16	6.64	2.94	2.26	0.18
	AD	0.243	3.24	2.46	2.47	1.59	0.39
Rapport	AR	0.853	1.57	1.67	1.07	1.13	0.10
	AD	0.937	1.61	1.23	2.39	0.93	0.21
Items that Decrease COMMONALITY Score							
Diversity	AR	0.199	1.52	2.41	1.27	1.88	0.57
	AD	0.506	2.16	2.32	1.76	1.57	0.10
Exclusion	AR	0.296	2.36	2.70	1.48	1.22	0.26
	AD	0.951	1.73	1.52	1.72	1.23	0.14
Liberation	AR	0.010**	0.71	1.79	0.75	1.54	0.90
	AD	0.110	0.58	0.82	0.88	0.75	0.29

***p*-value < 0.1; *******p*-value <0.05; ********p*-value <0.01

AR = Annual Report
AD = Analysts' Discussion

Table 5.52 Non-Parametric Test of Statistical Significance between Good & Bad Times (Micro-level Analysis) – Low Discretion Industry

Sub-features of COMMONALITY	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Increase COMMONALITY Score			**Low (Good)**	**Low (Bad)**	**Low (Good)**	**Low (Bad)**	
Centrality	AR	0.545	6.02	5.65	4.57	2.37	0.10
	AD	0.016**	3.03	3.43	2.31	2.15	0.18
Cooperation	AR	0.073*	7.37	6.16	3.85	2.94	0.36
	AD	0.717	3.36	3.24	2.54	2.47	0.04
Rapport	AR	0.880	1.63	1.57	1.17	1.07	0.05
	AD	0.167	1.16	1.61	1.04	2.39	0.25
Items that Decrease COMMONALITY Score							
Diversity	AR	0.005***	2.09	1.52	1.40	1.27	0.42
	AD	0.837	2.31	2.16	2.00	1.76	0.08
Exclusion	AR	0.532	2.74	2.36	2.07	1.48	0.21
	AD	0.952	1.76	1.73	1.84	1.72	0.01
Liberation	AR	0.227	0.77	0.71	0.68	0.75	0.09
	AD	0.007***	0.85	0.58	1.31	0.88	0.24

***_p_-value < 0.1; **_p_-value <0.05; ***_p_-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

Table 5.53 Non-Parametric Test of Statistical Significance between Good & Bad Times (Micro-level Analysis) – High Discretion Industry

Sub-features of COMMONALITY	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Increase COMMONALITY Score			**High (Good)**	**High (Bad)**	**High (Good)**	**High (Bad)**	
Centrality	AR	0.469	5.03	4.12	4.09	1.86	0.01
	AD	0.308	2.86	2.22	2.40	1.33	0.33
Cooperation	AR	0.429	7.63	6.64	3.49	2.26	0.15
	AD	0.595	2.87	2.46	2.18	1.59	0.22
Rapport	AR	0.400	1.48	1.67	1.52	1.13	0.12
	AD	0.659	1.36	1.23	2.84	0.93	0.07
Items that Decrease COMMONALITY Score							
Diversity	AR	0.766	2.09	2.41	1.85	1.88	0.07
	AD	0.970	2.45	2.32	1.93	1.57	0.07
Exclusion	AR	0.897	3.17	2.70	3.04	1.22	0.00
	AD	0.625	1.83	1.52	1.65	1.23	0.21
Liberation	AR	0.023**	0.84	1.79	0.90	1.54	0.07
	AD	0.086*	0.63	0.82	0.89	0.75	0.23

******p*-value < 0.1; *******p*-value <0.05; ********p*-value <0.01

AR = Annual Report
AD = Analysts' Discussion

Table 5.54 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (Micro-level Analysis) – Good Times

Sub-features of CERTAINTY	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Increase CERTAINTY Score			**Low**	**High**	**Low**	**High**	
Tenacity	AR	0.370	20.56	21.41	6.25	6.13	0.14
	AD	0.128	41.72	40.51	8.34	8.22	0.15
Levelling terms	AR	0.325	4.91	4.64	2.67	3.07	0.09
	AD	0.241	9.80	10.17	4.60	4.74	0.08
Collectives	AR	0.058*	9.22	8.38	3.98	3.90	0.21
	AD	0.059*	4.91	4.36	2.80	2.42	0.21
Insistence	AR	0.108	73.19	81.05	45.63	44.45	0.17
	AD	0.895	36.00	33.80	26.66	21.15	0.09
Items that Decrease CERTAINTY Score							
Numerical Terms	AR	0.131	24.22	21.41	14.06	13.36	0.20
	AD	0.004***	12.85	10.97	7.54	6.37	0.27
Ambivalence	AR	0.018**	4.15	3.20	3.03	2.44	0.34
	AD	0.626	20.38	20.87	6.86	10.27	0.06
Self-Reference	AR	0.024**	2.05	1.50	2.51	2.50	0.22
	AD	0.191	8.71	9.27	5.12	4.98	0.11
Variety	AR	0.590	0.55	0.55	0.07	0.06	0.10
	AD	0.740	0.53	0.52	0.07	0.07	0.06

***p*-value < 0.1; *******p*-value <0.05; ********p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

Table 5.55 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (Micro-level Analysis) – Bad Times

Sub-features of CERTAINTY	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Increase CERTAINTY Score			**Low**	**High**	**Low**	**High**	
Tenacity	AR	0.473	20.77	19.33	7.02	2.60	0.27
	AD	0.236	39.78	41.74	8.33	9.75	0.22
Levelling terms	AR	0.896	4.65	4.54	2.23	1.54	0.06
	AD	0.100	10.48	11.29	12.35	5.42	0.08
Collectives	AR	0.672	7.74	7.15	3.39	3.40	0.18
	AD	0.243	5.21	4.09	4.07	2.46	0.33
Insistence	AR	0.151	61.75	76.68	38.54	35.64	0.40
	AD	0.026**	35.21	25.34	19.08	13.86	0.59
Items that Decrease CERTAINTY Score							
Numerical Terms	AR	0.164	23.59	17.39	12.03	8.02	0.61
	AD	0.008***	14.76	9.54	8.60	5.72	0.72
Ambivalence	AR	0.609	4.16	4.65	2.73	2.77	0.18
	AD	0.152	19.25	24.11	7.93	13.37	0.44
Self-Reference	AR	0.579	3.28	3.46	4.11	3.14	0.05
	AD	0.409	7.91	9.12	4.61	5.28	0.24
Variety	AR	0.957	0.56	0.55	0.07	0.03	0.17
	AD	0.227	0.52	0.51	0.08	0.08	0.23

***p*-value < 0.1; *******p*-value <0.05; ********p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

Table 5.56 Non-Parametric Test of Statistical Significance between Good & Bad Times (Micro-level Analysis) – Low Discretion Industry

Sub-features of CERTAINTY	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Increase CERTAINTY Score			**Low (Good)**	**Low (Bad)**	**Low (Good)**	**Low (Bad)**	
Tenacity	AR	0.816	20.56	20.77	6.25	7.02	0.03
	AD	0.066*	41.72	39.78	8.34	8.33	0.23
Levelling terms	AR	0.609	4.91	4.65	2.67	2.23	0.11
	AD	0.316	9.80	10.48	4.60	12.35	0.07
Collectives	AR	0.035**	9.22	7.74	3.98	3.39	0.40
	AD	1.000	4.91	5.21	2.80	4.07	0.09
Insistence	AR	0.110	73.19	61.75	45.63	38.54	0.27
	AD	0.324	36.00	35.21	26.66	19.08	0.03
Items that Decrease CERTAINTY Score							
Numerical Terms	AR	0.975	24.22	23.59	14.06	12.03	0.05
	AD	0.040**	12.85	14.76	7.54	8.60	0.24
Ambivalence	AR	0.626	4.15	4.16	3.03	2.73	0.01
	AD	0.091*	20.38	19.25	6.86	7.93	0.15
Self-Reference	AR	0.017**	2.05	3.28	2.51	4.11	0.36
	AD	0.090*	8.71	7.91	5.12	4.61	0.17
Variety	AR	0.789	0.55	0.56	0.07	0.07	0.05
	AD	0.696	0.53	0.52	0.07	0.08	0.04

***p*-value < 0.1; *******p*-value <0.05; ********p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

Table 5.57 Non-Parametric Test of Statistical Significance between Good & Bad Times (Micro-level Analysis) – High Discretion Industry

Sub-features of CERTAINTY	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Increase CERTAINTY Score			**High (Good)**	**High (Bad)**	**High (Good)**	**High (Bad)**	
Tenacity	AR	0.950	21.41	19.70	6.13	5.35	0.05
	AD	0.305	40.51	41.74	8.22	9.75	0.14
Levelling terms	AR	0.783	4.64	4.61	3.07	2.67	0.01
	AD	0.353	10.17	11.29	4.74	5.42	0.22
Collectives	AR	0.271	8.38	8.47	3.90	4.07	0.02
	AD	0.442	4.36	4.09	2.42	2.46	0.11
Insistence	AR	0.980	81.05	82.33	44.45	45.21	0.03
	AD	0.089*	33.80	25.34	21.15	13.86	0.47
Items that Decrease CERTAINTY Score							
Numerical Terms	AR	0.578	21.41	22.42	13.36	14.28	0.07
	AD	0.253	10.97	9.54	6.37	5.72	0.24
Ambivalence	AR	0.120	3.20	3.07	2.44	2.22	0.06
	AD	0.325	20.87	24.11	10.27	13.37	0.27
Self-Reference	AR	0.020**	1.50	1.53	2.50	2.07	0.01
	AD	0.652	9.27	9.12	4.98	5.28	0.03
Variety	AR	0.675	0.55	0.54	0.06	0.06	0.09
	AD	0.100	0.52	0.51	0.07	0.08	0.23

******p*-value < 0.1; *******p*-value <0.05; ********p*-value <0.01

AR = Annual Report
AD = Analysts' Discussion

Table 5.58 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (Micro-level Analysis) – Good Times

Sub-features of ACTIVITY	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Increase ACTIVITY Score			**Low**	**High**	**Low**	**High**	
Aggression	AR	0.212	3.31	3.12	1.88	2.21	0.10
	AD	0.043**	1.92	2.30	1.49	2.09	0.21
Accomplishment	AR	0.017**	33.54	35.57	11.13	9.22	0.20
	AD	0.000***	15.37	17.52	7.41	6.92	0.30
Communication	AR	0.883	2.34	2.63	2.14	2.99	0.11
	AD	0.077*	8.51	7.41	5.47	3.86	0.23
Motion	AR	0.121	2.10	2.49	1.74	2.21	0.20
	AD	0.147	3.95	4.21	2.34	2.33	0.11
Items that Decrease ACTIVITY Score							
Cognition	AR	0.309	7.52	7.16	3.59	3.93	0.10
	AD	0.008***	11.75	12.51	5.92	4.80	0.14
Passivity	AR	0.081*	8.24	7.63	3.40	3.67	0.17
	AD	0.117	4.28	4.17	2.35	3.71	0.03
Embellishment	AR	0.004***	1.05	0.75	1.40	0.54	0.29
	AD	0.489	0.60	0.86	0.89	2.24	0.15

***p*-value < 0.1; ***p*-value <0.05; ****p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

Table 5.59 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (Micro-level Analysis) – Bad Times

Sub-features of ACTIVITY	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Increase ACTIVITY Score			**Low**	**High**	**Low**	**High**	
Aggression	AR	0.263	4.04	3.24	2.43	3.24	0.28
	AD	0.326	1.80	3.15	1.54	5.50	0.34
Accomplishment	AR	0.648	36.32	35.25	16.88	7.80	0.08
	AD	0.496	15.36	15.80	6.61	6.08	0.07
Communication	AR	0.296	1.97	2.32	1.91	1.56	0.20
	AD	0.558	8.69	7.03	6.10	2.65	0.35
Motion	AR	0.744	1.68	1.79	1.00	1.00	0.12
	AD	0.883	3.83	3.36	2.57	1.21	0.24
Items that Decrease ACTIVITY Score							
Cognition	AR	0.249	7.43	8.12	3.67	2.31	0.22
	AD	0.409	11.48	11.59	4.98	3.30	0.03
Passivity	AR	0.460	8.19	7.30	3.58	3.44	0.25
	AD	0.095*	5.47	3.42	4.15	1.18	0.67
Embellishment	AR	0.073*	0.81	0.59	0.47	0.20	0.63
	AD	0.312	1.06	0.47	2.50	0.27	0.33

***p*-value < 0.1; ***p*-value <0.05; ****p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

Table 5.60 Non-Parametric Test of Statistical Significance between Good & Bad Times (Micro-level Analysis) – Low Discretion Industry

Sub-features of ACTIVITY	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Increase ACTIVITY Score			**Low (Good)**	**Low (Bad)**	**Low (Good)**	**Low (Bad)**	
Aggression	AR	0.081*	3.31	4.04	1.88	2.43	0.33
	AD	0.305	1.92	1.80	1.49	1.54	0.08
Accomplishment	AR	0.309	33.54	36.32	11.13	16.88	0.19
	AD	0.743	15.37	15.36	7.41	6.61	0.00
Communication	AR	0.077*	2.34	1.97	2.14	1.91	0.18
	AD	0.950	8.51	8.69	5.47	6.10	0.03
Motion	AR	0.550	2.10	1.68	1.74	1.00	0.30
	AD	0.424	3.95	3.83	2.34	2.57	0.05
Items that Decrease ACTIVITY Score							
Cognition	AR	0.596	7.52	7.43	3.59	3.67	0.02
	AD	0.841	11.75	11.48	5.92	4.98	0.05
Passivity	AR	0.749	8.24	7.43	3.40	3.58	0.23
	AD	0.081*	4.28	5.47	2.35	4.15	0.35
Embellishment	AR	0.600	1.05	0.81	1.40	0.47	0.23
	AD	0.624	0.60	1.06	0.89	2.50	0.24

***p*-value < 0.1; ***p*-value <0.05; ****p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

Table 5.61 Non-Parametric Test of Statistical Significance between Good & Bad Times (Micro-level Analysis) – High Discretion Industry

Sub-features of ACTIVITY	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Increase ACTIVITY Score			**High (Good)**	**High (Bad)**	**High (Good)**	**High (Bad)**	
Aggression	AR	0.792	3.12	2.96	2.21	2.07	0.07
	AD	0.851	2.30	3.15	2.09	5.50	0.20
Accomplishment	AR	0.993	35.57	35.72	9.22	8.46	0.02
	AD	0.473	17.52	15.80	6.92	6.08	0.26
Communication	AR	0.894	2.63	2.72	2.99	3.19	0.03
	AD	0.933	7.41	7.03	3.86	2.65	0.11
Motion	AR	0.567	2.49	2.72	2.21	2.29	0.10
	AD	0.193	4.21	3.36	2.33	1.21	0.46
Items that Decrease ACTIVITY Score							
Cognition	AR	0.245	7.16	7.51	3.93	3.95	0.09
	AD	0.647	12.51	11.59	4.80	3.30	0.22
Passivity	AR	0.767	7.63	7.72	3.67	3.64	0.02
	AD	0.641	4.17	3.42	3.71	1.18	0.27
Embellishment	AR	0.525	0.75	0.77	0.54	0.56	0.04
	AD	0.070*	0.86	0.47	2.24	0.27	0.25

***p*-value < 0.1; ****p*-value <0.05; *****p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

Table 5.62 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (Micro-level Analysis) – Good Times

Sub-features of REALISM	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Increase REALISM Score			**Low**	**High**	**Low**	**High**	
Familiarity	AR	0.631	124.34	123.56	12.83	12.78	0.06
	AD	0.160	128.78	131.16	14.53	11.66	0.18
Spatial Terms	AR	0.185	9.27	8.44	5.25	5.01	0.16
	AD	0.400	9.11	9.19	4.34	8.48	0.01
Temporal Terms	AR	0.927	15.59	15.79	4.90	5.64	0.04
	AD	0.109	16.81	15.87	6.99	6.10	0.14
Present Concern	AR	0.422	8.33	8.10	7.18	3.76	0.04
	AD	0.782	14.66	14.23	5.65	5.05	0.08
Human Interest	AR	0.484	25.22	26.04	12.14	13.17	0.06
	AD	0.814	31.90	30.48	19.40	10.05	0.09
Concreteness	AR	0.051*	14.19	13.10	5.01	5.05	0.22
	AD	0.546	9.21	9.47	4.45	4.69	0.06
Items that Decrease REALISM Score							
Past Concern	AR	0.012**	2.07	2.71	1.21	2.50	0.32
	AD	0.068*	3.64	4.02	2.18	2.47	0.16
Complexity	AR	0.000***	5.07	5.21	0.24	0.30	0.51
	AD	0.015**	4.40	4.43	0.21	0.18	0.15

******p*-value < 0.1; *******p*-value <0.05; ********p*-value <0.01

AR = Annual Report
AD = Analysts' Discussion

Table 5.63 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (Micro-level Analysis) – Bad Times

Sub-features of REALISM	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Increase REALISM Score			**Low**	**High**	**Low**	**High**	
Familiarity	AR	0.297	126.62	123.31	16.23	6.97	0.27
	AD	0.247	131.17	136.45	14.86	14.03	0.36
Spatial Terms	AR	0.487	8.84	7.39	4.33	3.86	0.35
	AD	0.220	8.85	6.98	4.94	1.91	0.50
Temporal Terms	AR	0.777	14.99	15.42	5.22	3.11	0.10
	AD	0.829	16.92	17.88	6.80	9.96	0.11
Present Concern	AR	0.008***	7.11	11.33	3.31	4.12	1.12
	AD	0.003***	13.85	17.54	5.12	5.20	0.72
Human Interest	AR	0.185	25.08	29.71	8.93	4.13	0.67
	AD	0.014**	29.80	35.63	8.14	10.78	0.61
Concreteness	AR	0.098*	15.81	11.88	6.25	2.75	0.82
	AD	0.010**	11.47	7.61	6.21	2.51	0.81
Items that Decrease REALISM Score							
Past Concern	AR	0.421	2.16	2.35	1.47	1.21	0.14
	AD	0.560	3.21	3.47	1.96	2.19	0.12
Complexity	AR	0.312	5.06	5.14	0.22	0.22	0.35
	AD	0.016**	4.43	4.30	0.18	0.17	0.77

******p*-value < 0.1; *******p*-value <0.05; ********p*-value <0.01

AR = Annual Report
AD = Analysts' Discussion

Table 5.64 Non-Parametric Test of Statistical Significance between Good & Bad Times (Micro-level Analysis) – Low Discretion Industry

Sub-features of REALISM	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Increase REALISM Score			**Low (Good)**	**Low (Bad)**	**Low (Good)**	**Low (Bad)**	
Familiarity	AR	0.190	124.34	126.62	12.83	16.23	0.16
	AD	0.129	128.78	131.17	14.53	14.86	0.16
Spatial Terms	AR	0.514	9.27	8.84	5.25	4.33	0.09
	AD	0.317	9.11	8.85	4.34	4.94	0.06
Temporal Terms	AR	0.516	15.59	14.99	4.90	5.22	0.12
	AD	0.839	16.81	16.92	6.99	6.80	0.02
Present Concern	AR	0.392	8.33	7.11	7.18	3.31	0.22
	AD	0.387	14.66	13.85	5.65	5.12	0.15
Human Interest	AR	0.946	25.22	25.08	12.14	8.93	0.01
	AD	0.676	31.90	29.80	19.40	8.14	0.14
Concreteness	AR	0.190	14.19	15.81	5.01	6.25	0.29
	AD	0.001***	9.21	11.47	4.45	6.21	0.42
Items that Decrease REALISM Score							
Past Concern	AR	0.948	2.07	2.16	1.21	1.47	0.06
	AD	0.091*	3.64	3.21	2.18	1.96	0.21
Complexity	AR	0.867	5.07	5.06	0.24	0.22	0.06
	AD	0.066*	4.40	4.43	0.21	0.18	0.19

***p*-value < 0.1; ***p*-value <0.05; ****p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

Table 5.65 Non-Parametric Test of Statistical Significance between Good & Bad Times (Micro-level Analysis) – High Discretion Industry

Sub-features of REALISM	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Increase REALISM Score			**High (Good)**	**High (Bad)**	**High (Good)**	**High (Bad)**	
Familiarity	AR	0.967	123.56	123.31	12.78	6.97	0.02
	AD	0.134	131.16	136.45	11.66	14.03	0.41
Spatial Terms	AR	0.570	8.44	7.39	5.01	3.86	0.23
	AD	0.122	9.19	6.98	8.48	1.91	0.36
Temporal Terms	AR	0.910	15.79	15.42	5.64	3.11	0.08
	AD	0.636	15.87	17.88	6.10	9.96	0.24
Present Concern	AR	0.027**	8.10	11.33	3.76	4.12	0.82
	AD	0.004***	14.23	17.54	5.05	5.20	0.65
Human Interest	AR	0.694	26.04	29.71	13.17	4.13	0.38
	AD	0.008***	30.48	35.63	10.05	10.78	0.49
Concreteness	AR	0.676	13.10	11.88	5.05	2.75	0.30
	AD	0.091*	9.47	7.61	4.69	2.51	0.49
Items that Decrease REALISM Score							
Past Concern	AR	0.953	2.71	2.35	2.50	1.21	0.18
	AD	0.345	4.02	3.47	2.47	2.19	0.23
Complexity	AR	0.610	5.21	5.14	0.30	0.22	0.27
	AD	0.011**	4.43	4.30	0.18	0.17	0.73

***p*-value < 0.1; ***p*-value <0.05; ****p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

Table 5.66 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (Micro-level Analysis) – Good Times

Sub-features of OPTIMISM	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Increase OPTIMISM Score			**Low**	**High**	**Low**	**High**	
Praise	AR	0.300	5.93	5.47	3.09	3.00	0.15
	AD	0.002***	6.62	7.37	3.63	3.44	0.21
Satisfaction	AR	0.596	3.57	3.31	3.27	2.80	0.09
	AD	0.423	6.34	6.01	7.54	5.81	0.05
Inspiration	AR	0.027**	7.46	8.29	4.91	4.19	0.18
	AD	0.130	3.11	3.21	2.80	2.65	0.03
Items that Decrease OPTIMISM Score							
Blame	AR	0.005***	0.68	0.51	0.68	0.76	0.23
	AD	0.411	0.95	0.99	1.05	1.39	0.03
Hardship	AR	0.760	1.47	1.56	1.59	1.59	0.06
	AD	0.752	1.30	1.31	1.37	1.76	0.01
Denial	AR	0.000***	1.13	0.70	1.29	1.04	0.36
	AD	0.463	5.84	5.70	3.48	3.57	0.04

***p-value < 0.1; **p-value <0.05; ***p-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

Table 5.67 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (Micro-level Analysis) – Bad Times

Sub-features of OPTIMISM	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Increase OPTIMISM Score			**Low**	**High**	**Low**	**High**	
Praise	AR	0.240	4.97	6.69	2.62	3.96	0.51
	AD	0.403	6.29	6.69	3.17	2.21	0.14
Satisfaction	AR	0.174	2.90	4.29	2.48	3.25	0.48
	AD	0.131	5.56	10.01	5.35	15.08	0.39
Inspiration	AR	0.983	8.03	8.06	6.37	5.29	0.01
	AD	0.848	2.54	2.36	2.62	1.85	0.08
Items that Decrease OPTIMISM Score							
Blame	AR	0.684	0.53	0.44	0.66	0.48	0.16
	AD	0.886	0.94	0.81	1.94	0.75	0.09
Hardship	AR	0.132	1.10	2.32	1.07	2.01	0.76
	AD	0.095*	1.15	1.38	1.09	0.81	0.24
Denial	AR	0.157	1.04	1.49	0.90	0.88	0.51
	AD	0.544	5.55	6.29	3.45	4.17	0.19

******p*-value < 0.1; *******p*-value <0.05; ********p*-value <0.01

AR = Annual Report
AD = Analysts' Discussion

Table 5.68 Non-Parametric Test of Statistical Significance between Good & Bad Times (Micro-level Analysis) – Low Discretion Industry

Sub-features of OPTIMISM	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Increase OPTIMISM Score			**Low (Good)**	**Low (Bad)**	**Low (Good)**	**Low (Bad)**	
Praise	AR	0.057*	5.93	4.97	3.09	2.62	0.33
	AD	0.700	6.62	6.29	3.63	3.17	0.09
Satisfaction	AR	0.242	3.57	2.90	3.27	2.48	0.23
	AD	0.545	6.34	5.56	7.54	5.35	0.12
Inspiration	AR	0.692	7.46	8.03	4.91	6.37	0.10
	AD	0.052*	3.11	2.54	2.80	2.62	0.21
Items that Decrease OPTIMISM Score							
Blame	AR	0.174	0.68	0.53	0.68	0.66	0.22
	AD	0.286	0.95	0.94	1.05	1.94	0.01
Hardship	AR	0.207	1.47	1.10	1.59	1.07	0.27
	AD	0.471	1.30	1.15	1.37	1.09	0.12
Denial	AR	0.638	1.13	1.04	1.29	0.90	0.08
	AD	0.322	5.84	5.55	3.48	3.45	0.08

******p*-value < 0.1; *******p*-value <0.05; ********p*-value <0.01

AR = Annual Report
AD = Analysts' Discussion

Table 5.69 Non-Parametric Test of Statistical Significance between Good & Bad Times (Micro-level Analysis) – High Discretion Industry

Sub-features of OPTIMISM	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
Items that Increase OPTIMISM Score			**High (Good)**	**High (Bad)**	**High (Good)**	**High (Bad)**	
Praise	AR	0.410	5.47	6.69	3.00	3.96	0.35
	AD	0.564	7.37	6.69	3.44	2.21	0.24
Satisfaction	AR	0.427	3.31	4.29	2.80	3.25	0.32
	AD	0.343	6.01	10.01	5.81	15.08	0.35
Inspiration	AR	0.667	8.29	8.06	4.19	5.29	0.05
	AD	0.120	3.21	2.36	2.65	1.85	0.37
Items that Decrease OPTIMISM Score							
Blame	AR	0.825	0.51	0.44	0.76	0.48	0.12
	AD	0.986	0.99	0.81	1.39	0.75	0.16
Hardship	AR	0.269	1.56	2.32	1.59	2.01	0.42
	AD	0.130	1.31	1.38	1.76	0.81	0.05
Denial	AR	0.005***	0.70	1.49	1.04	0.88	0.81
	AD	0.643	5.70	6.29	3.57	4.17	0.15

***_p_-value < 0.1; **_p_-value <0.05; ***_p_-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

Table 5.70 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (LIWC) – Good Times

LIWC Category	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
			Low	High	Low	High	
Tone	AR	0.134	80.57	83.25	13.33	11.85	0.21
	AD	0.000***	71.87	77.95	10.82	10.77	0.56
First Person Singular Pronoun	AR	0.018**	0.28	0.20	0.31	0.29	0.26
	AD	0.507	1.37	1.43	0.58	0.73	0.10
First Person Plural Pronoun	AR	0.308	4.19	4.51	1.85	2.21	0.16
	AD	0.880	4.93	4.93	0.92	1.05	0.01
Positive Emotion	AR	0.722	3.93	3.96	0.97	0.94	0.03
	AD	0.000***	3.06	3.42	0.65	0.72	0.53
Negative Emotion	AR	0.000***	0.66	0.49	0.36	0.43	0.42
	AD	0.002***	0.53	0.47	0.23	0.24	0.25
Certainty	AR	0.426	1.04	1.00	0.39	0.37	0.12
	AD	0.707	1.36	1.39	0.37	0.38	0.07
Achievement	AR	0.000***	3.58	4.10	0.93	1.06	0.53
	AD	0.000***	2.18	2.52	0.64	0.75	0.49
Risk	AR	0.002***	0.44	0.35	0.30	0.35	0.26
	AD	0.347	0.27	0.27	0.15	0.17	0.03
Past Focus	AR	0.527	1.90	1.96	0.30	0.35	0.09
	AD	0.619	2.86	2.83	0.15	0.17	0.03
Present Focus	AR	0.488	5.25	5.15	1.33	1.48	0.07
	AD	0.716	10.57	10.61	1.50	1.70	0.02
Motion	AR	0.187	2.91	3.08	0.73	0.87	0.21
	AD	0.000***	2.58	2.79	0.60	0.58	0.36

***p*-value < 0.1; ****p*-value <0.05; *****p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

Table 5.71 Non-Parametric Test of Statistical Significance between Low & High Discretion Industries (LIWC) – Bad Times

LIWC Category	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
			Low	High	Low	High	
Tone	AR	0.041**	76.88	89.02	15.02	4.75	1.08
	AD	0.000***	66.27	82.27	13.75	7.89	1.42
First Person Singular Pronoun	AR	0.870	0.55	0.51	0.63	0.49	0.06
	AD	0.299	1.31	1.51	0.53	0.68	0.32
First Person Plural Pronoun	AR	0.350	4.37	4.91	1.44	1.12	0.42
	AD	0.948	5.27	5.37	0.92	0.99	0.11
Positive Emotion	AR	0.171	3.81	4.14	1.13	0.48	0.37
	AD	0.000***	2.82	3.62	0.77	0.63	1.13
Negative Emotion	AR	0.005***	0.75	0.31	0.39	0.34	1.19
	AD	0.001***	0.59	0.38	0.26	0.15	1.02
Certainty	AR	0.836	1.07	1.03	0.38	0.41	0.09
	AD	0.128	1.32	1.52	0.40	0.48	0.45
Achievement	AR	0.178	3.71	4.05	1.28	0.65	0.34
	AD	0.445	2.13	2.17	0.80	0.43	0.06
Risk	AR	0.049**	0.47	0.26	0.27	0.25	0.84
	AD	0.926	0.29	0.29	0.17	0.17	0.00
Past Focus	AR	0.096*	2.10	1.79	0.50	0.32	0.74
	AD	0.487	2.70	2.55	0.83	0.51	0.22
Present Focus	AR	0.240	5.21	5.85	1.49	1.07	0.49
	AD	0.075*	10.74	11.54	1.99	1.33	0.47
Motion	AR	0.712	2.69	2.73	0.73	1.26	0.04
	AD	0.338	2.42	2.56	0.62	0.56	0.24

***p*-value < 0.1; ***p*-value <0.05; ****p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

Table 5.72 Non-Parametric Test of Statistical Significance between Good & Bad Times (LIWC) – Low Discretion Industry

LIWC Category	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
			Low (Good)	Low (Bad)	Low (Good)	Low (Bad)	
Tone	AR	0.149	80.57	76.88	13.33	15.02	0.26
	AD	0.000***	71.87	66.27	10.82	13.75	0.45
First Person Singular Pronoun	AR	0.001***	0.28	0.55	0.31	0.63	0.55
	AD	0.421	1.37	1.31	0.58	0.53	0.09
First Person Plural Pronoun	AR	0.602	4.19	4.37	1.85	1.44	0.11
	AD	0.002***	4.93	5.27	0.92	0.92	0.37
Positive Emotion	AR	0.454	3.93	3.81	0.97	1.13	0.11
	AD	0.002***	3.06	2.82	0.65	0.77	0.34
Negative Emotion	AR	0.127	0.66	0.75	0.36	0.39	0.24
	AD	0.037**	0.53	0.59	0.23	0.26	0.25
Certainty	AR	0.516	1.04	1.07	0.39	0.38	0.06
	AD	0.238	1.36	1.32	0.37	0.40	0.10
Achievement	AR	0.717	3.58	3.71	0.93	1.28	0.12
	AD	0.443	2.18	2.13	0.64	0.80	0.06
Risk	AR	0.253	0.44	0.47	0.30	0.27	0.13
	AD	0.601	0.27	0.29	0.15	0.17	0.09
Past Focus	AR	0.027**	1.90	2.10	0.57	0.50	0.37
	AD	0.189	2.86	2.70	0.84	0.83	0.19
Present Focus	AR	0.866	5.25	5.21	1.33	1.49	0.03
	AD	0.625	10.57	10.74	1.50	1.99	0.09
Motion	AR	0.115	2.91	2.69	0.73	0.73	0.30
	AD	0.052*	2.58	2.42	0.60	0.62	0.25

***p*-value < 0.1; ****p*-value <0.05; *****p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

Table 5.73 Non-Parametric Test of Statistical Significance between Good & Bad Times (LIWC) – High Discretion Industry

LIWC Category	Document Type	Kruskal-Wallis Sig. Test	Mean Values		Standard Deviation		Cohen's *d*
			High (Good)	High (Bad)	High (Good)	High (Bad)	
Tone	AR	0.201	83.25	89.02	11.85	4.75	0.64
	AD	0.121	77.95	82.27	10.77	7.89	0.46
First Person Singular Pronoun	AR	0.015**	0.20	0.51	0.29	0.49	0.78
	AD	0.751	1.43	1.51	0.73	0.68	0.11
First Person Plural Pronoun	AR	0.625	4.51	4.91	2.21	1.12	0.23
	AD	0.093*	4.93	5.37	1.05	0.99	0.43
Positive Emotion	AR	0.342	3.96	4.14	0.94	0.48	0.24
	AD	0.258	3.42	3.62	0.72	0.63	0.29
Negative Emotion	AR	0.167	0.49	0.31	0.43	0.34	0.46
	AD	0.132	0.47	0.38	0.24	0.15	0.46
Certainty	AR	0.584	1.00	1.03	0.37	0.41	0.08
	AD	0.317	1.39	1.52	0.38	0.48	0.30
Achievement	AR	0.792	4.10	4.05	1.06	0.65	0.06
	AD	0.066*	2.52	2.17	0.75	0.43	0.57
Risk	AR	0.563	0.35	0.26	0.35	0.25	0.32
	AD	0.650	0.27	0.29	0.17	0.17	0.11
Past Focus	AR	0.514	1.96	1.79	0.35	0.32	0.29
	AD	0.072*	2.83	2.55	0.17	0.51	0.49
Present Focus	AR	0.114	5.15	5.85	1.48	1.07	0.54
	AD	0.021**	10.61	11.54	1.70	1.33	0.61
Motion	AR	0.191	3.08	2.73	0.87	1.26	0.32
	AD	0.141	2.79	2.56	0.58	0.56	0.40

***p*-value < 0.1; *******p*-value <0.05; ********p*-value <0.01**

AR = Annual Report
AD = Analysts' Discussion

9. Panel Ratings

9a. Panel Ratings – Academics and Industry Analysts

Table 9.1 **Overall Descriptive Statistics and Correlations[a]**

Variable	Mean	St.Dev.	1	2	3	4	5	6	7
Discretion, academic panel	4.52	1.80							
Discretion, security analysts	4.75	1.23	0.83***						
R&D Intensity	0.04	0.04	0.48***	0.57*					
Advertising Intensity	0.01	0.02	0.34***	0.29	0.00				
Capital Intensity	66.60	113.74	-0.44***	-0.31	-0.40	-0.23			
Market Growth	0.10	0.08	0.40***	0.53*	0.30	0.02	-0.18		
Demand Instability	0.12	0.08	-0.14	-0.12	-0.25	0.02	0.22	-0.04	
Regulation	0.18	0.13	-0.07	-0.11	0.40	-0.30	0.02	0.07	-0.30

[a]Correlations involving the academic panel's discretion ratings are based on an *N* of 221; all others are based on an *N* of 17

p-value < 0.01; p-value < 0.05**; p-value < 0.1****

Extracted from Hambrick and Abrahamson (1995, p. 1436)

9a. Panel Ratings – Academics and Industry Analysts

Table 9.2 **Results of Multiple Regression Analyses**

	Academic Panel, Model 1		Academic Panel, Model 2[b]		Security Analysts, Model 3	
	b	s.e	*b*	s.e	*b*	s.e
Independent Variable[a]						
Intercept	4.284***	0.470	4.344***	0.386	4.286***	0.568
R&D Intensity	12.107***	2.604	12.090***	2.499	11.300	6.646
Advertising Intensity	16.785***	4.573	15.186***	4.358	16.790	7.279
Capital Intensity	-0.003***	0.001	-0.004***	0.001	-0.002	0.002
Market Growth	5.835***	1.292	5.960***	1.281	5.329	3.604
Demand Instability	-0.997	1.308				
Regulation	0.808	0.800				
R^2	0.492***		0.487***		0.477	
F	9.903		11.034		2.511	

[a]Dummy variables for each panelist not reported in the study

[b]Model 2 omits the two variables that were insignificant in model 1

p-value < 0.001*

10. Sample Companies

10a. Sample of Companies with Annual Reports

Table 10.1 Sample of Companies with Annual Reports

	Industry		Total No. of Companies	Total No. of Annual Reports
	Low Discretion	High Discretion		
FTSE350	30	30	60	
Missing Data	-	-	-	
Total Balanced Sample	30	30	60	
Firm Years	5	5		
Total No. of Annual Reports	150	150		300

10b. Sample of Companies with Analysts' Discussions

Table 10.2 Sample of Companies with Analysts' Discussions

	Industry		Total No. of Companies	Total No. of Analysts' Discussions
	Low Discretion	High Discretion		
FTSE350	30	30	60	
Firm Years	5	5	-	
Total Unbalanced Sample	344	299	60	
Missing Data	-	-		
Total No. of Analysts' Discussions	344	299		643

11. Summary Results and Analysis

Table 5.74 Descriptive Statistics

Master Variable	Industry	Annual Reports					Analysts' Discussions				
DICTION		Max	Min	Mean	Median	Std. Dev.	Max	Min	Mean	Median	Std. Dev.
COMMONALITY	Low Discretion	54.91	45.23	49.60	49.71	1.67	65.93	37.92	48.33	48.49	2.12
	High Discretion	57.41	43.08	48.85	48.75	2.13	77.70	41.10	48.22	48.22	2.46
CERTAINTY	Low Discretion	53.84	27.44	47.39	48.00	4.17	81.30	40.06	39.62	40.09	7.39
	High Discretion	54.25	27.40	48.73	49.89	3.73	52.80	41.72	38.28	39.54	7.85
ACTIVITY	Low Discretion	59.07	42.65	49.25	49.11	2.13	66.04	33.92	49.85	49.90	2.43
	High Discretion	57.87	43.74	49.90	49.76	2.01	57.50	37.73	49.88	50.02	2.36
REALISM	Low Discretion	60.99	44.30	53.88	53.71	2.47	78.99	45.14	57.56	57.39	2.80
	High Discretion	58.38	38.12	53.10	53.16	2.78	73.99	50.98	57.24	57.05	2.76
OPTIMISM	Low Discretion	68.82	46.36	54.52	54.06	3.40	97.88	36.46	54.43	53.23	5.90
	High Discretion	70.67	47.47	54.76	54.24	3.26	97.68	43.26	54.85	53.71	5.67
Flesch Readability Score	Low Discretion	57.00	9.50	30.92	30.15	7.99	80.00	36.60	58.54	59.50	6.84
	High Discretion	48.20	11.30	27.44	27.20	7.81	73.20	37.70	58.12	58.20	6.71
Flesch-Kincaid Readability Grade	Low Discretion	20.60	6.60	14.62	14.90	1.97	13.30	4.80	9.49	9.50	1.51
	High Discretion	20.20	11.90	15.15	15.00	1.62	13.50	6.30	9.65	9.70	1.42

Table 5.75 **Descriptive Statistics (Calculated scores versus DICTION scores)**

Master Variable	Industry	Annual Reports				Analysts' Discussions			
		Mean	S.Dev.	DICTION Mean	DICTION S.Dev	Mean	S.Dev.	DICTION Mean	DICTION S.Dev
COMMONALITY	Low Discretion	49.60	1.67	49.57	2.71	48.33	2.12	49.57	2.71
	High Discretion	48.85	2.13			48.22	2.46		
CERTAINTY	Low Discretion	47.39	4.17	49.43	2.53	39.62	7.39	49.43	2.53
	High Discretion	48.73	3.73			38.28	7.85		
ACTIVITY	Low Discretion	49.25	2.13	51.11	4.37	49.85	2.43	51.11	4.37
	High Discretion	49.90	2.01			49.88	2.36		
REALISM	Low Discretion	53.88	2.47	49.36	3.26	57.56	2.80	49.36	3.26
	High Discretion	53.10	2.78			57.24	2.76		
OPTIMISM	Low Discretion	54.52	3.40	49.31	2.94	54.43	5.90	49.31	2.94
	High Discretion	54.76	3.26			54.85	5.67		
Flesch Readability Score	Low Discretion	30.92	7.99			58.54	6.84		
	High Discretion	27.44	7.81			58.12	6.71		
Flesch-Kincaid Readability Grade	Low Discretion	14.62	1.97			9.49	1.51		
	High Discretion	15.15	1.62			9.65	1.42		

Table 5.76 Non-Parametric Test of Statistical Sig. between Flesch Index Scores of the Two Document Types (Annual Reports vs Analysts' Discussions)

Flesch Index Scores	Document Type	Kruskal-Wallis Sig. Test	Mean	S.Dev	Max	Min	Cohen's *d*
Flesch Readability Score	Annual Reports - LD	0.000***	30.92	7.99	57.00	9.50	3.71
Flesch Readability Score	Analysts' Discussions -LD		58.54	6.84	80.00	36.60	
Flesch-Kincaid Readability Grade	Annual Reports - LD	0.000***	14.62	1.97	20.60	6.60	2.92
Flesch-Kincaid Readability Grade	Analysts' Discussions - LD		9.49	1.51	13.30	4.80	
Flesch Readability Score	Annual Reports - HD	0.000***	27.44	7.81	48.20	11.30	4.21
Flesch Readability Score	Aggregated (Analysts' Discussions) -HD		58.12	6.71	73.20	37.70	
Flesch-Kincaid Readability Grade	Annual Reports - HD	0.000***	15.15	1.62	20.20	11.90	3.61
Flesch-Kincaid Readability Grade	Analysts' Discussions - HD		9.65	1.42	13.50	6.30	
Flesch Readability Score	Aggregated (Annual Reports) -LD & HD	0.000***	29.18	8.08	57.00	9.50	3.91
Flesch Readability Score	Aggregated (Analysts' Discussions) -LD & HD		58.35	6.78	80.00	36.60	
Flesch Readability Grade	Aggregated (Annual Reports) -LD & HD	0.000***	14.89	1.82	20.60	6.60	3.21
Flesch Readability Grade	Aggregated (Analysts' Discussions) -LD & HD		9.57	1.47	13.50	4.80	

***p*-value < 0.1; ****p*-value <0.05; *****p*-value <0.01**

Table 5.77 **Descriptive Statistics (Language Inquiry and Word Count - LIWC)**

LIWC Category	Industry	Annual Reports					Analysts' Discussions				
		Max	Min	Mean	Median	Std. Dev.	Max	Min	Mean	Median	Std. Dev.
Tone	Low Discretion	99.00	30.15	79.22	81.71	13.96	98.45	33.88	69.96	70.05	12.16
	High Discretion	99.00	23.25	83.56	85.96	11.64	97.54	35.48	78.19	79.45	10.67
First Person Singular Pronoun	Low Discretion	3.26	0.00	0.36	0.27	0.45	3.69	0.21	1.35	1.24	0.56
	High Discretion	1.90	0.00	0.21	0.09	0.31	6.40	0.06	1.44	1.30	0.73
First Person Plural Pronoun	Low Discretion	7.81	0.00	4.26	4.49	1.71	7.90	2.68	5.04	5.03	0.93
	High Discretion	10.08	0.08	4.53	4.82	2.17	8.39	1.69	4.96	4.91	1.05
Positive Emotion	Low Discretion	7.65	1.65	3.88	3.77	1.02	5.82	0.78	2.98	2.88	0.70
	High Discretion	6.57	1.98	3.97	3.85	0.93	5.43	1.50	3.43	3.41	0.71
Negative Emotion	Low Discretion	2.08	0.00	0.69	0.66	0.37	1.48	0.04	0.55	0.53	0.24
	High Discretion	2.82	0.00	0.48	0.37	0.43	1.28	0.00	0.46	0.44	0.24
Certainty	Low Discretion	2.45	0.26	1.05	1.00	0.38	2.71	0.53	1.34	1.34	0.38
	High Discretion	2.05	0.13	1.00	0.96	0.37	2.44	0.42	1.39	1.33	0.39
Achievement	Low Discretion	8.18	0.84	3.62	3.40	1.06	5.41	0.19	2.17	2.08	0.70
	High Discretion	7.12	1.67	4.10	4.08	1.04	5.13	1.01	2.50	2.36	0.74
Risk	Low Discretion	1.91	0.00	0.45	0.41	0.29	0.91	0.00	0.28	0.25	0.16
	High Discretion	2.04	0.00	0.34	0.24	0.34	1.18	0.00	0.27	0.22	0.17
Past Focus	Low Discretion	3.19	0.68	1.97	1.94	0.56	7.49	0.82	2.80	2.75	0.85
	High Discretion	4.94	0.29	1.95	1.92	0.78	5.10	0.36	2.82	2.84	0.65
Present Focus	Low Discretion	9.48	1.80	5.21	5.14	1.38	14.58	6.07	10.63	10.68	1.68
	High Discretion	11.01	2.26	5.19	5.10	1.47	15.30	5.10	10.66	10.71	1.70
Motion	Low Discretion	4.85	1.44	2.83	2.71	0.73	4.59	0.77	2.53	2.46	0.61
	High Discretion	5.63	1.18	3.06	2.88	0.89	4.54	1.51	2.78	2.76	0.58

Table 5.78 **Descriptive Statistics - During Good Times**

Master Variable	Industry	Annual Reports					Analysts' Discussions				
		Max	Min	Mean	Median	Std. Dev.	Max	Min	Mean	Median	Std. Dev.
COMMONALITY	Low Discretion	54.91	45.23	49.55	49.71	1.80	53.67	37.92	48.07	48.36	1.95
	High Discretion	57.41	43.08	48.90	48.86	2.15	77.70	41.10	48.24	48.24	2.51
CERTAINTY	Low Discretion	53.84	36.91	48.03	48.88	3.61	51.25	-9.94	39.15	39.57	7.03
	High Discretion	54.25	27.40	48.89	49.95	3.64	52.80	-8.28	38.29	39.47	7.88
ACTIVITY	Low Discretion	54.49	42.65	49.12	49.08	2.07	66.04	33.92	50.05	50.10	2.42
	High Discretion	57.87	43.74	49.92	49.77	2.03	55.20	37.73	49.86	50.02	2.37
REALISM	Low Discretion	60.99	47.12	53.96	53.66	2.54	78.99	48.98	57.58	57.27	2.83
	High Discretion	58.38	38.12	53.03	53.02	2.82	73.99	50.98	57.13	56.99	2.69
OPTIMISM	Low Discretion	68.82	46.36	54.70	54.50	3.57	97.88	44.03	54.65	53.19	6.34
	High Discretion	70.67	47.47	54.72	54.17	3.30	87.21	43.26	54.71	53.74	5.14
Flesch Readability Score	Low Discretion	57.00	9.50	31.30	30.40	8.24	80.00	36.60	59.00	60.20	6.83
	High Discretion	48.20	11.30	27.34	27.30	7.79	73.20	37.70	57.93	58.05	6.75
Flesch Readability Grade	Low Discretion	20.60	6.60	14.46	14.80	2.00	13.30	4.80	9.40	9.40	1.49
	High Discretion	20.20	11.90	15.14	14.95	1.62	13.50	6.30	9.69	9.70	1.43

Table 5.79 **Descriptive Statistics - During Bad Times**

Master Variable	Industry	Annual Reports					Analysts' Discussions				
		Max	Min	Mean	Median	Std. Dev.	Max	Min	Mean	Median	Std. Dev.
COMMONALITY	Low Discretion	52.81	46.40	49.68	49.57	1.42	65.93	42.74	48.81	48.72	2.35
	High Discretion	50.56	46.08	47.91	47.56	1.60	51.08	44.69	47.92	47.78	1.22
CERTAINTY	Low Discretion	51.97	27.44	46.01	46.67	5.09	81.30	14.16	40.45	41.00	7.98
	High Discretion	50.42	36.56	45.82	45.88	4.31	47.77	22.27	38.09	40.63	7.51
ACTIVITY	Low Discretion	59.07	45.94	49.52	49.36	2.23	56.19	34.81	49.46	49.24	2.44
	High Discretion	52.71	46.98	49.51	49.59	1.72	57.50	47.92	50.24	50.16	2.18
REALISM	Low Discretion	60.17	44.30	53.75	53.83	2.39	66.80	45.14	57.53	57.52	2.75
	High Discretion	57.21	52.05	54.27	54.33	1.60	69.30	55.26	59.16	58.94	3.25
OPTIMISM	Low Discretion	64.91	49.70	54.28	53.77	3.04	75.52	36.46	53.94	53.27	4.90
	High Discretion	59.10	50.88	55.38	55.66	2.53	97.68	49.92	57.14	53.04	11.37
Flesch Readability Score	Low Discretion	43.20	11.40	30.29	30.15	7.70	74.20	38.80	57.69	58.15	6.79
	High Discretion	44.80	16.30	29.21	27.10	8.54	71.20	54.60	61.35	61.40	5.23
Flesch Readability Grade	Low Discretion	20.20	8.70	14.92	14.90	1.93	13.00	6.00	9.66	9.80	1.55
	High Discretion	18.80	12.40	15.26	15.35	1.86	10.60	7.00	9.00	9.30	1.08

Table 5.80 **Descriptive Statistics - Good vs Bad Times (Low Discretion Industry)**

Master Variable	Industry	Annual Reports					Analysts' Discussions				
		Max	Min	Mean	Median	Std. Dev.	Max	Min	Mean	Median	Std. Dev.
COMMONALITY	Low Discretion (G)	54.91	45.23	49.55	49.71	1.80	53.67	37.92	48.07	48.36	1.95
	Low Discretion (B)	52.81	46.40	49.68	49.57	1.42	65.93	42.74	48.81	48.72	2.35
CERTAINTY	Low Discretion (G)	53.84	36.91	48.03	48.88	3.61	51.25	-9.94	39.15	39.57	7.03
	Low Discretion (B)	51.97	27.44	46.01	46.67	5.09	81.30	14.16	40.45	41.00	7.98
ACTIVITY	Low Discretion (G)	54.49	42.65	49.12	49.08	2.07	66.04	33.92	50.05	50.10	2.42
	Low Discretion (B)	59.07	45.94	49.52	49.36	2.23	56.19	34.81	49.46	49.24	2.44
REALISM	Low Discretion (G)	60.99	47.12	53.96	53.66	2.54	78.99	48.98	57.58	57.27	2.83
	Low Discretion (B)	60.17	44.30	53.75	53.83	2.39	66.80	45.14	57.53	57.52	2.75
OPTIMISM	Low Discretion (G)	68.82	46.36	54.70	54.50	3.57	97.88	44.03	54.65	53.19	6.34
	Low Discretion (B)	64.91	49.70	54.28	53.77	3.04	75.52	36.46	53.94	53.27	4.90
Flesch Readability Score	Low Discretion (G)	57.00	9.50	31.30	30.40	8.24	80.00	36.60	59.00	60.20	6.83
	Low Discretion (B)	43.20	11.40	30.29	30.15	7.70	74.20	38.80	57.69	58.15	6.79
Flesch Readability Grade	Low Discretion (G)	20.60	6.60	14.46	14.80	2.00	13.30	4.80	9.40	9.40	1.49
	Low Discretion (B)	20.20	8.70	14.92	14.90	1.93	13.00	6.00	9.66	9.80	1.55

Table 5.81 **Descriptive Statistics - Good vs Bad Times (High Discretion Industry)**

Master Variable	Industry	Annual Reports					Analysts' Discussions				
		Max	Min	Mean	Median	Std. Dev.	Max	Min	Mean	Median	Std. Dev.
COMMONALITY	High Discretion (G)	57.41	43.08	48.90	48.86	2.15	77.70	41.10	48.24	48.24	2.51
	High Discretion (B)	50.56	46.08	47.91	47.56	1.60	51.08	44.69	47.92	47.78	1.22
CERTAINTY	High Discretion (G)	54.25	27.40	48.89	49.95	3.64	52.80	-8.28	38.29	39.47	7.88
	High Discretion (B)	50.42	36.56	45.82	45.88	4.31	47.77	22.27	38.09	40.63	7.51
ACTIVITY	High Discretion (G)	57.87	43.74	49.92	49.77	2.03	55.20	37.73	49.86	50.02	2.37
	High Discretion (B)	52.71	46.98	49.51	49.59	1.72	57.50	47.92	50.24	50.16	2.18
REALISM	High Discretion (G)	58.38	38.12	53.03	53.02	2.82	73.99	50.98	57.13	56.99	2.69
	High Discretion (B)	57.21	52.05	54.27	54.33	1.60	69.30	55.26	59.16	58.94	3.25
OPTIMISM	High Discretion (G)	70.67	47.47	54.72	54.17	3.30	87.21	43.26	54.71	53.74	5.14
	High Discretion (B)	59.10	50.88	55.38	55.66	2.53	97.68	49.92	57.14	53.04	11.37
Flesch Readability Score	High Discretion (G)	48.20	11.30	27.34	27.30	7.79	73.20	37.70	57.93	58.05	6.75
	High Discretion (B)	44.80	16.30	29.21	27.10	8.54	71.20	54.60	61.35	61.40	5.23
Flesch Readability Grade	High Discretion (G)	20.20	11.90	15.14	14.95	1.62	13.50	6.30	9.69	9.70	1.43
	High Discretion (B)	18.80	12.40	15.26	15.35	1.86	10.60	7.00	9.00	9.30	1.08